

Diagram illustrating the addition of two 16-bit numbers x and y to produce a 16-bit result s . The numbers are represented as 4x4 grids of bits. The addition is performed bit-by-bit, with a carry-in of 0 on the left and a carry-out on the right.

	x15	x14	x13	• • •		x2	x1	x0
+	y15	y14	y13	• • •		x2	x1	x0
<hr style="border: 0.5px solid black;"/>								
s16	s15	s14	s13	• • •		s2	s1	s0

FIG. 2

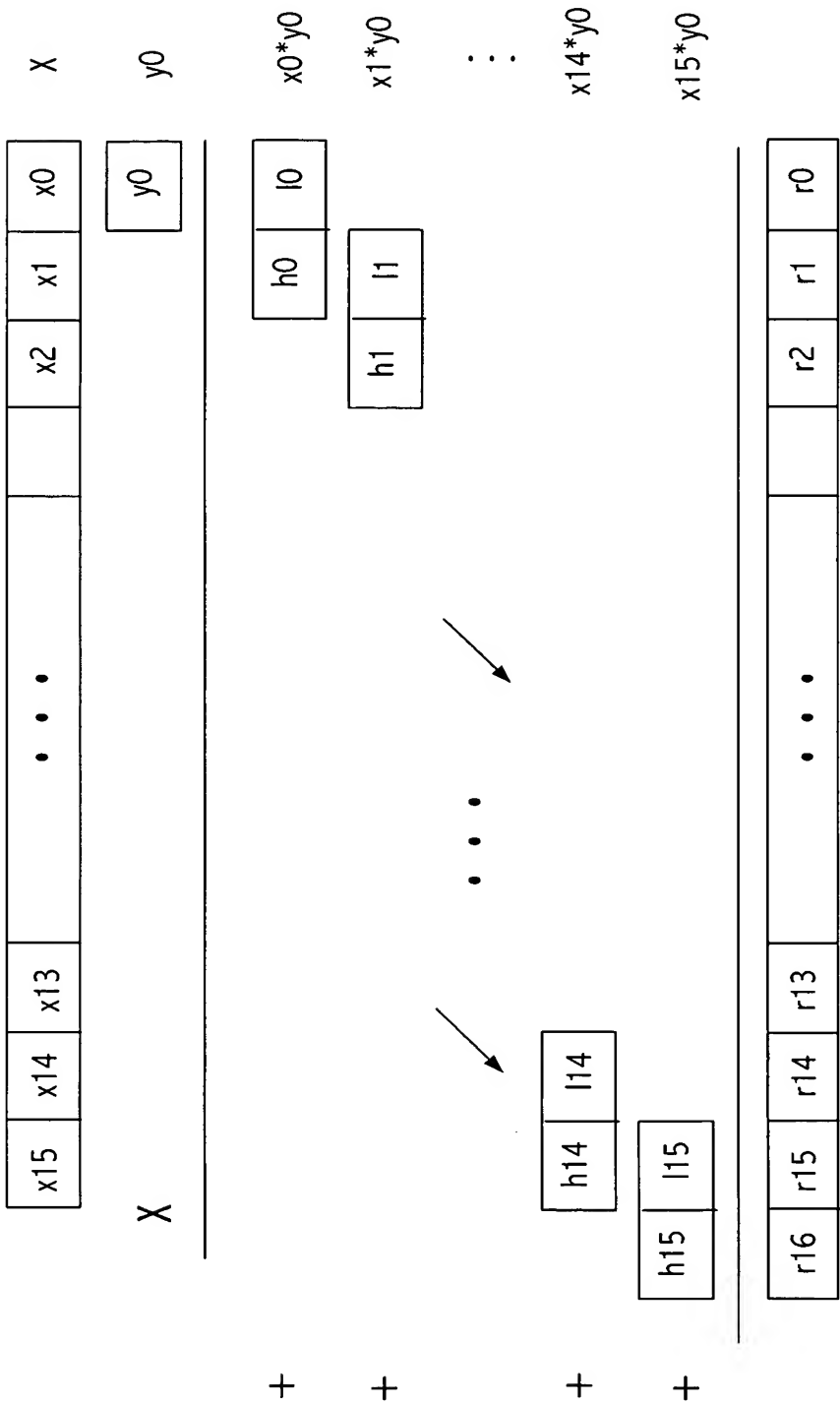
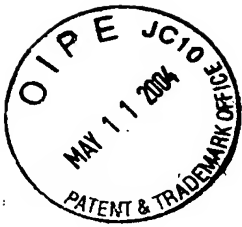


FIG. 3

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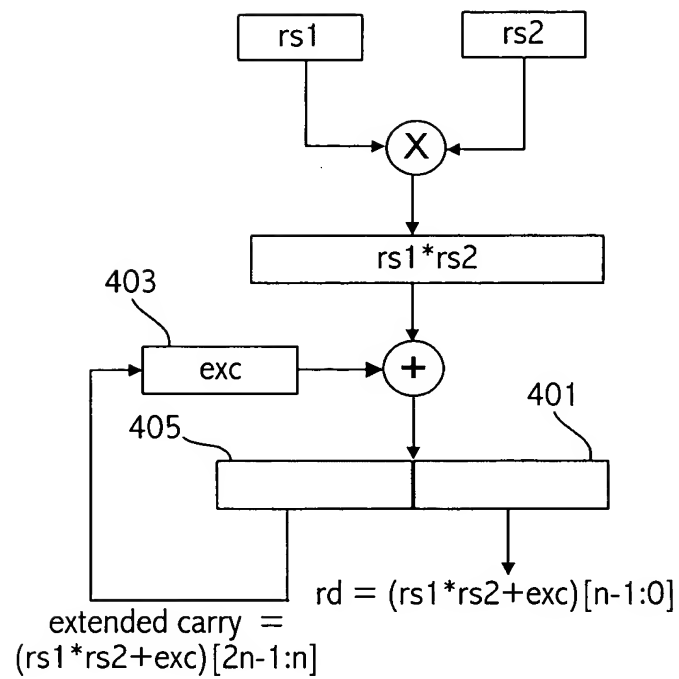


FIG. 4A

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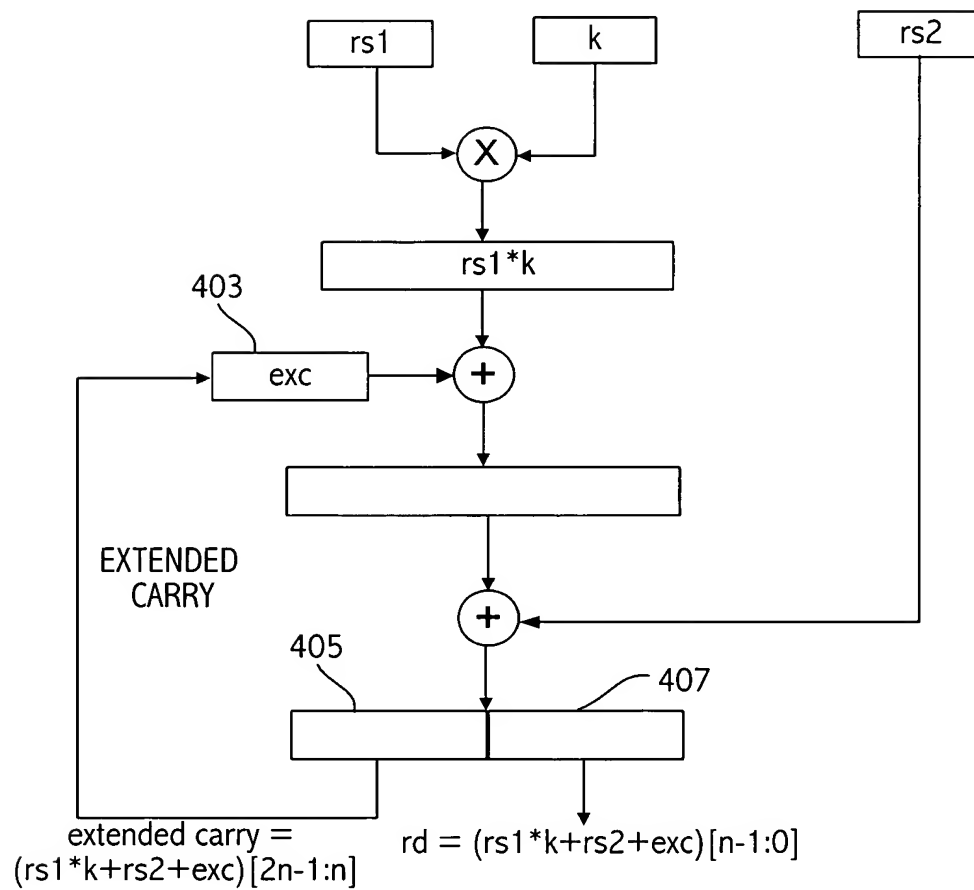


FIG. 4B

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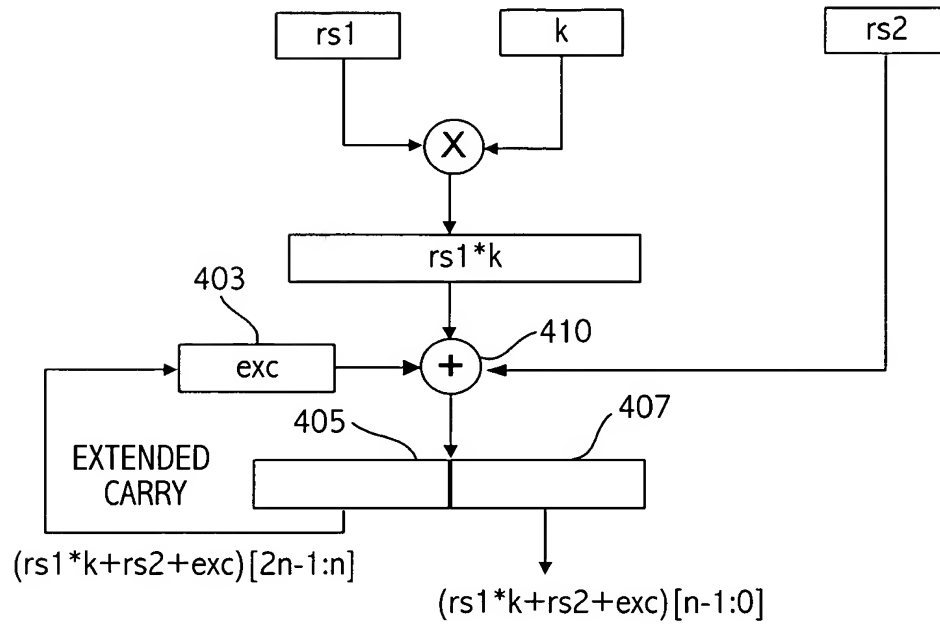


FIG. 4C

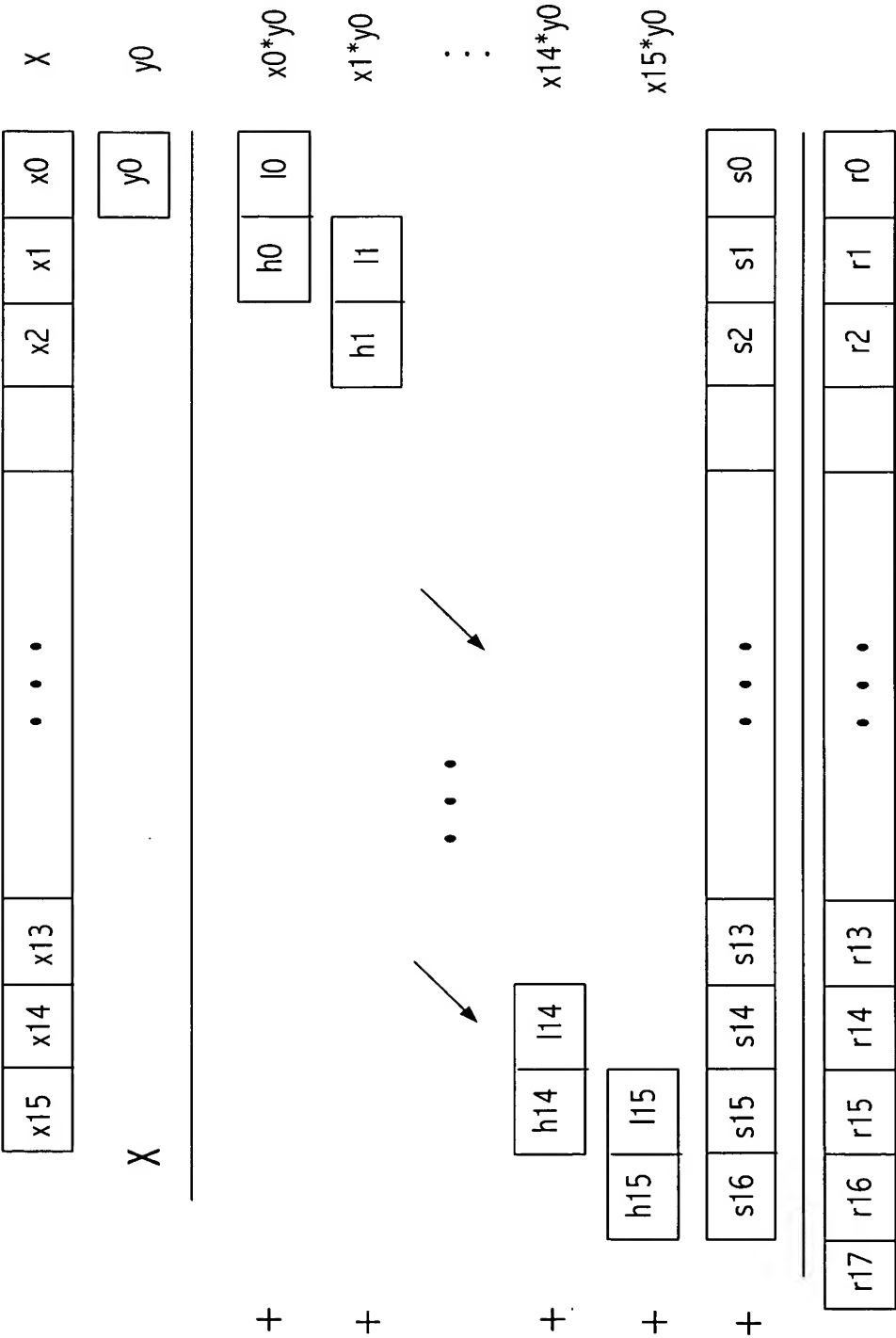


FIG. 5

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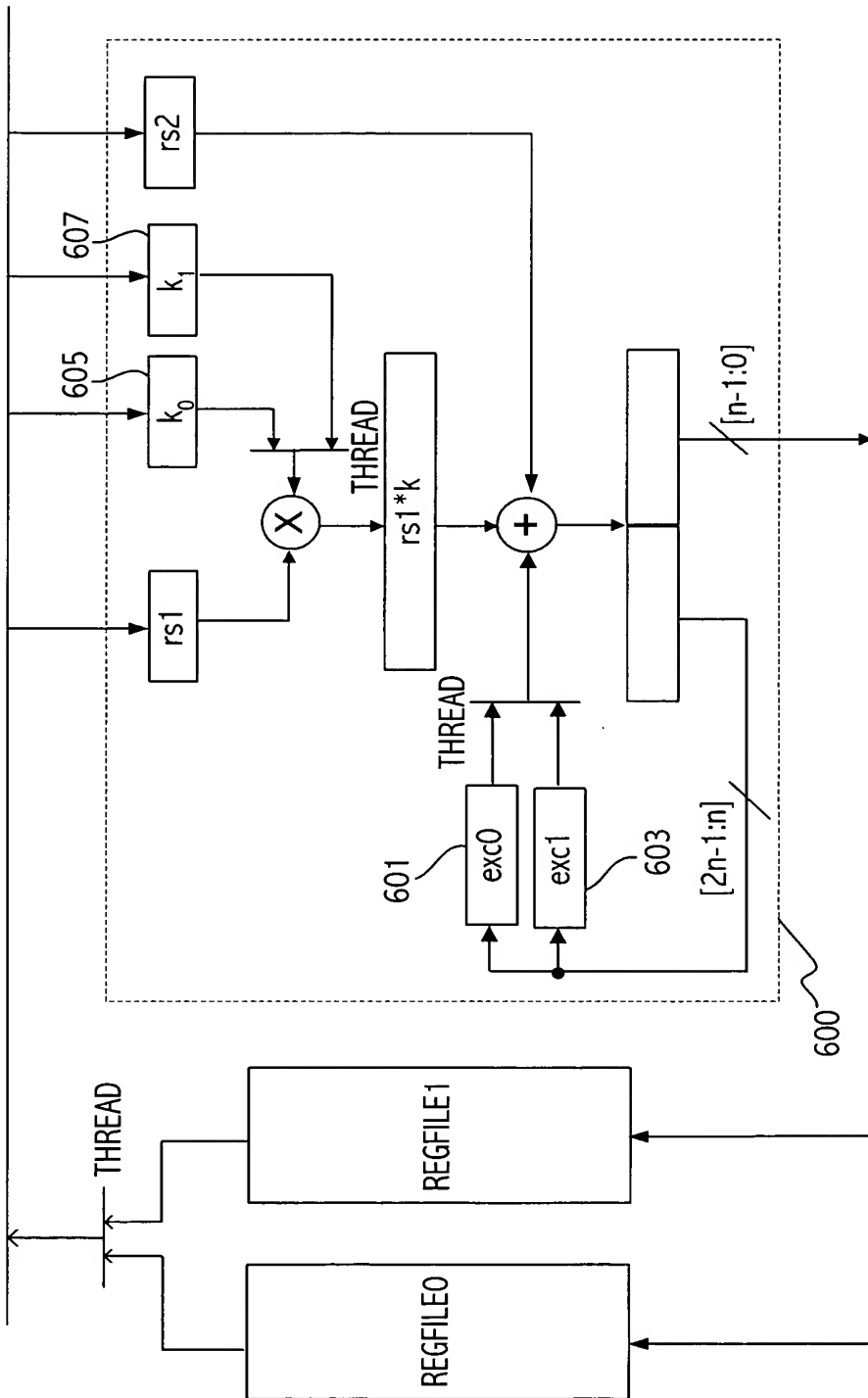
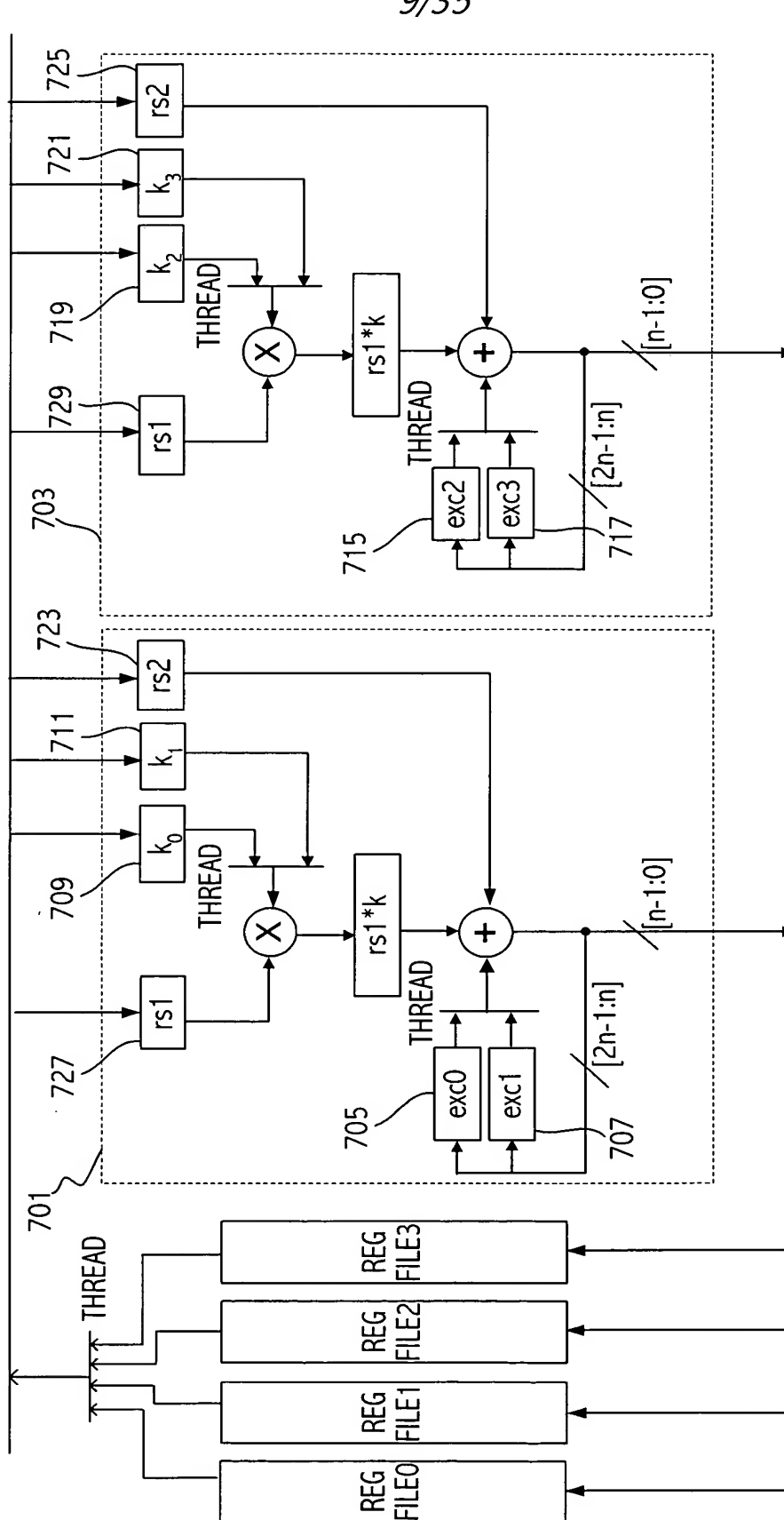


FIG. 6



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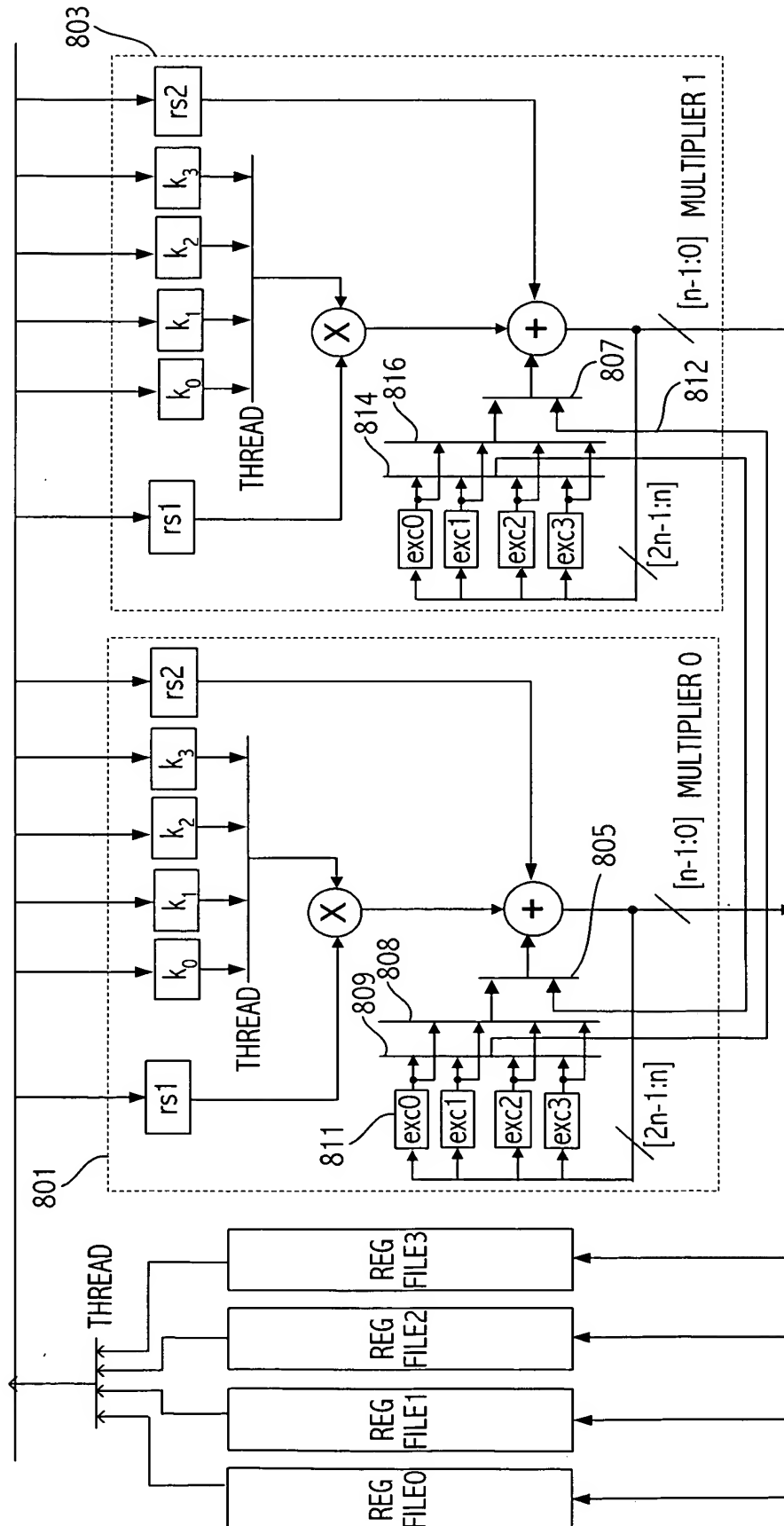


FIG. 8

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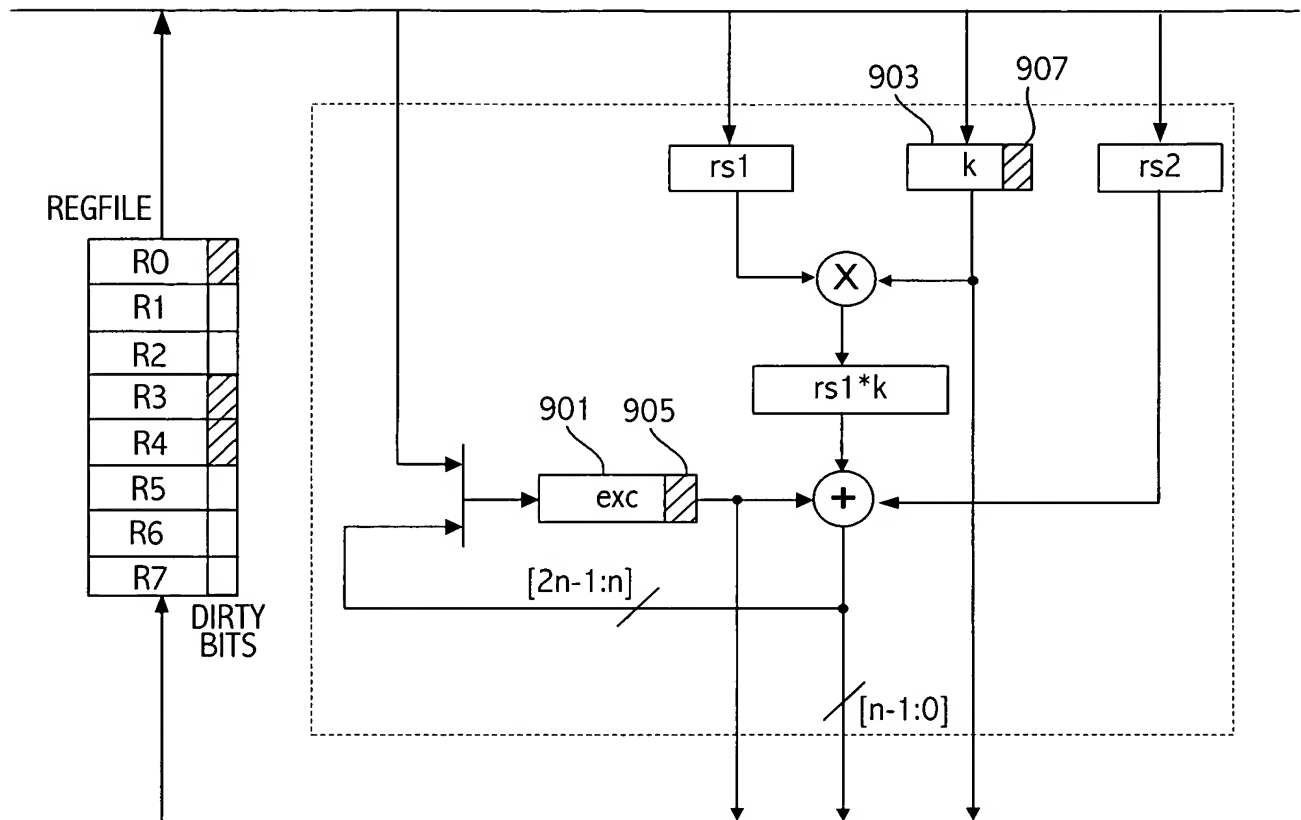


FIG. 9

FIG. 10

FIG. 11

FIG. 12

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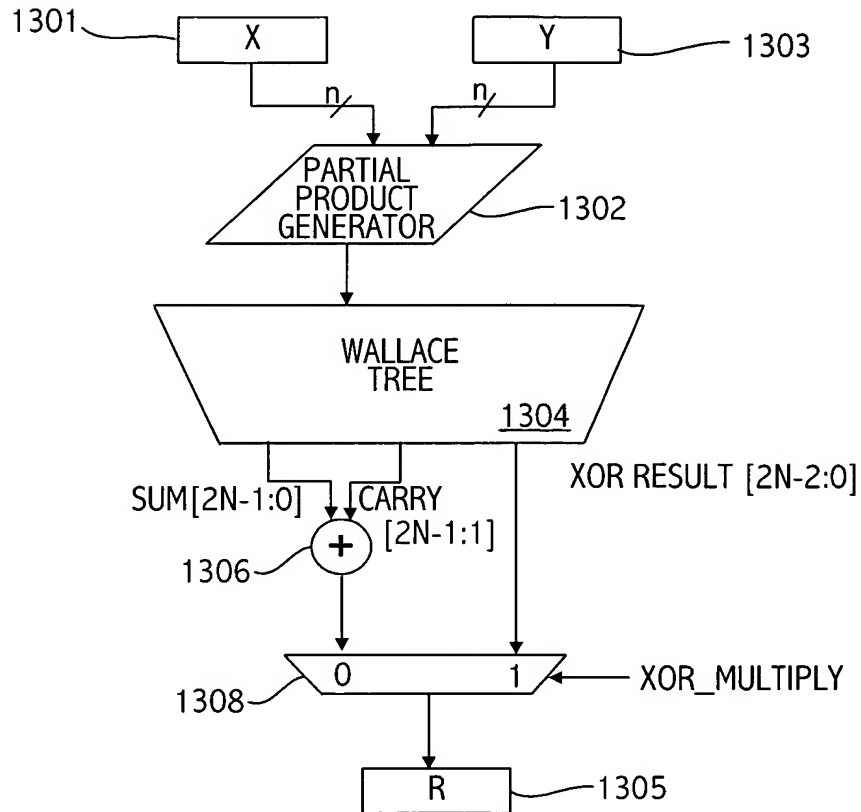


FIG. 13

						~SD	SD	SD	D8	D7	D6	D5	D4	D3	D2	D1	D0
				1	~SF	-SE	E8	E7	E6	E5	E4	E3	E2	E1	E0		SD
		1	G8	G7	F8	F7	F6	F5	F4	F3	F2	F1	F0		SE		
1	-SG	G8	G7	G6	G5	G4	G3	G2	G1	G0			SF				
	H7	H6	H5	H4	H3	H2	H1	H0									
									S15	S14	S13	S12	S11	S10	S9	S8	
C16	C16	C16	C16	C16	C16	C16	C16	C16	C15	C14	C13	C12	C11	C10	C9	C8	
									Z7	Z6	Z5	Z4	Z3	Z2	Z1	Z0	
<hr/>																	
	S15	S14	S13	S12	S11	S10	S9	S8	S7	S6	S5	S4	S3	S2	S1	S0	
C16	C15	C14	C13	C12	C11	C10	C9	C8	C7	C6	C5	C4	C3	C2	C1	C0	

WITH [S7:S0] AND [C7:C0] GOING TO THE CARRY LOOK-AHEAD ADDER.

FIG. 12B

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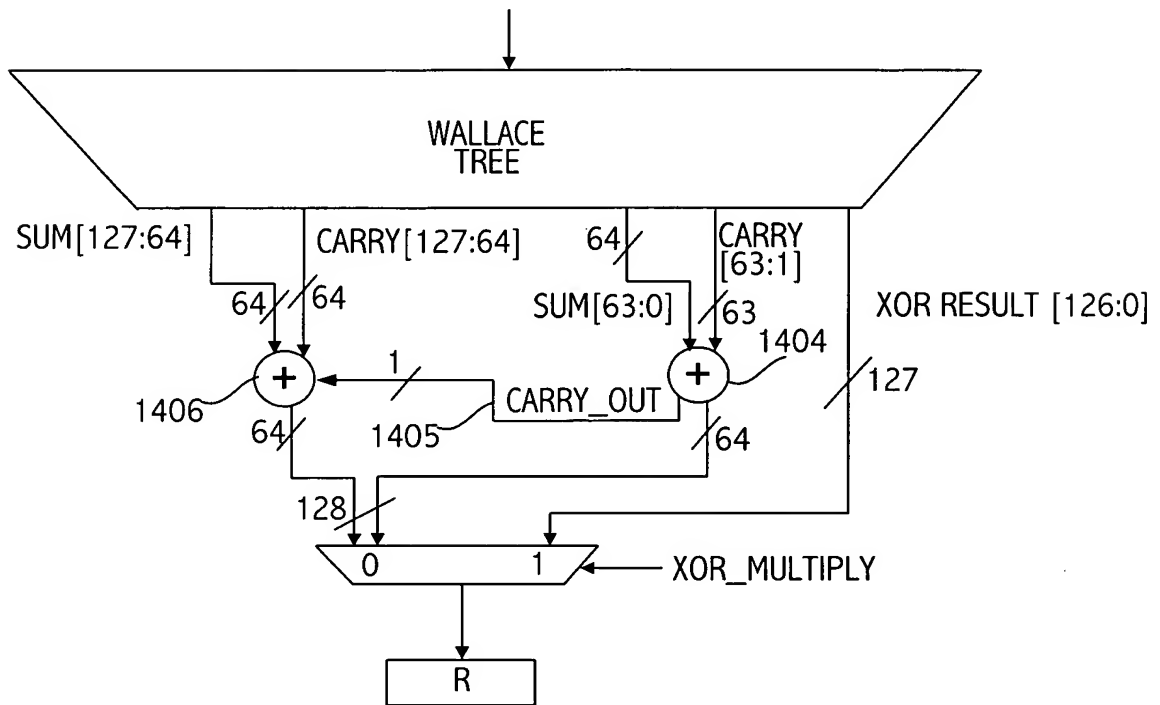


FIG. 14

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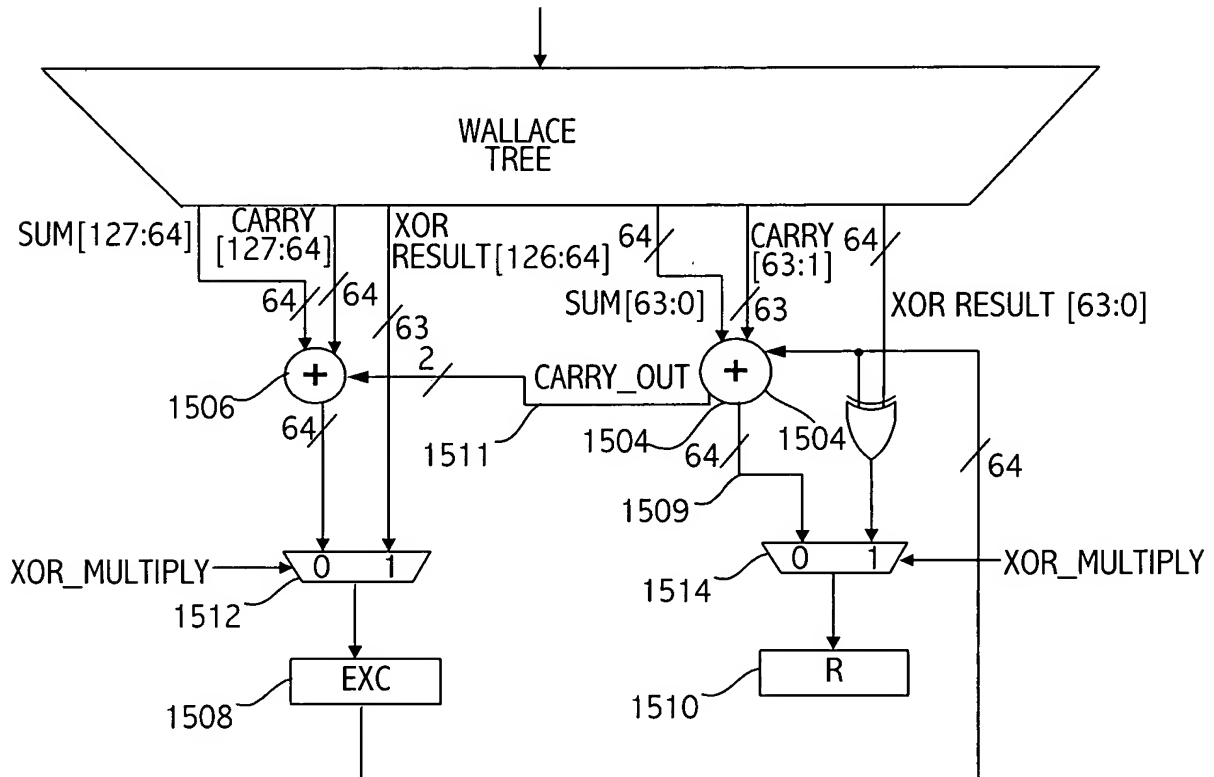


FIG. 15

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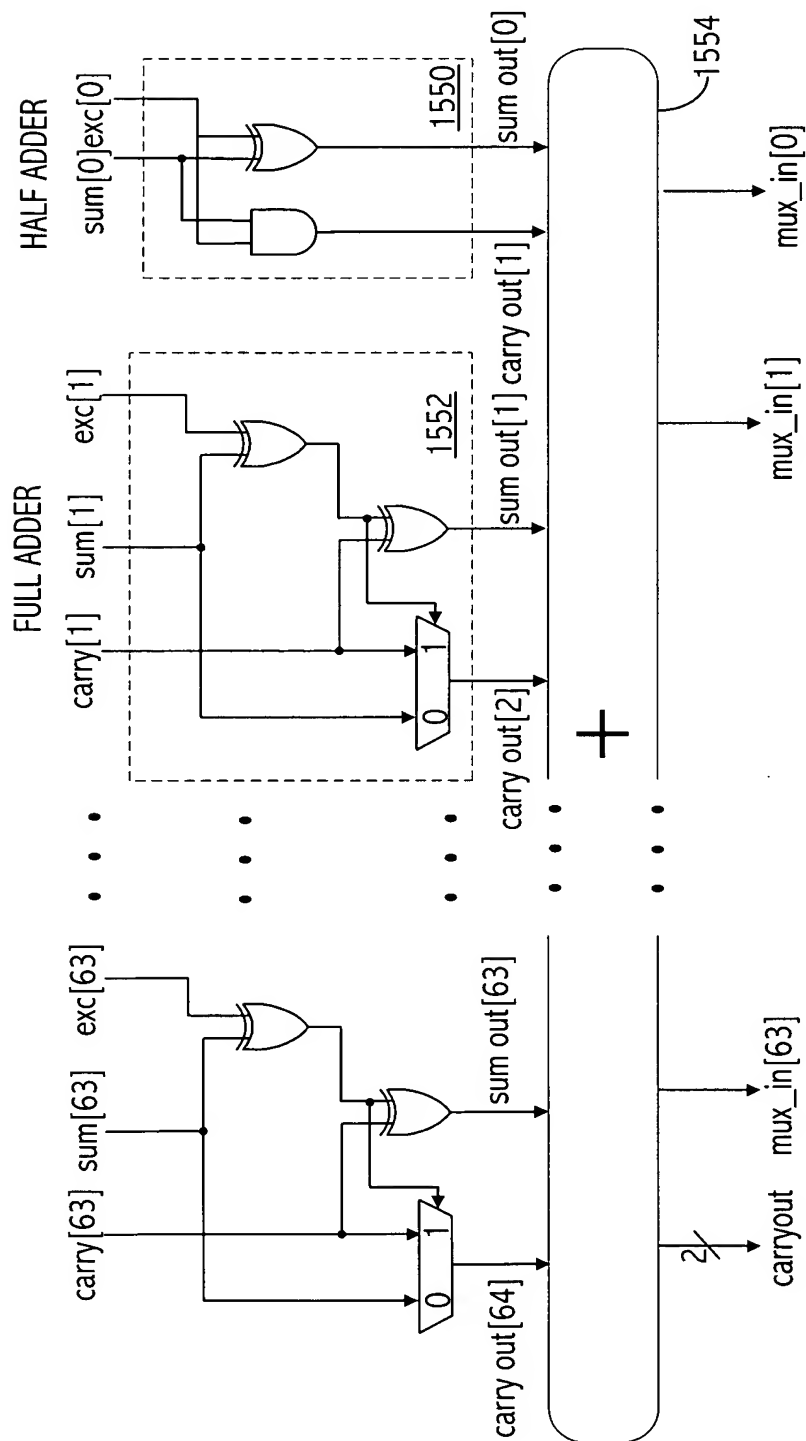


FIG. 15a

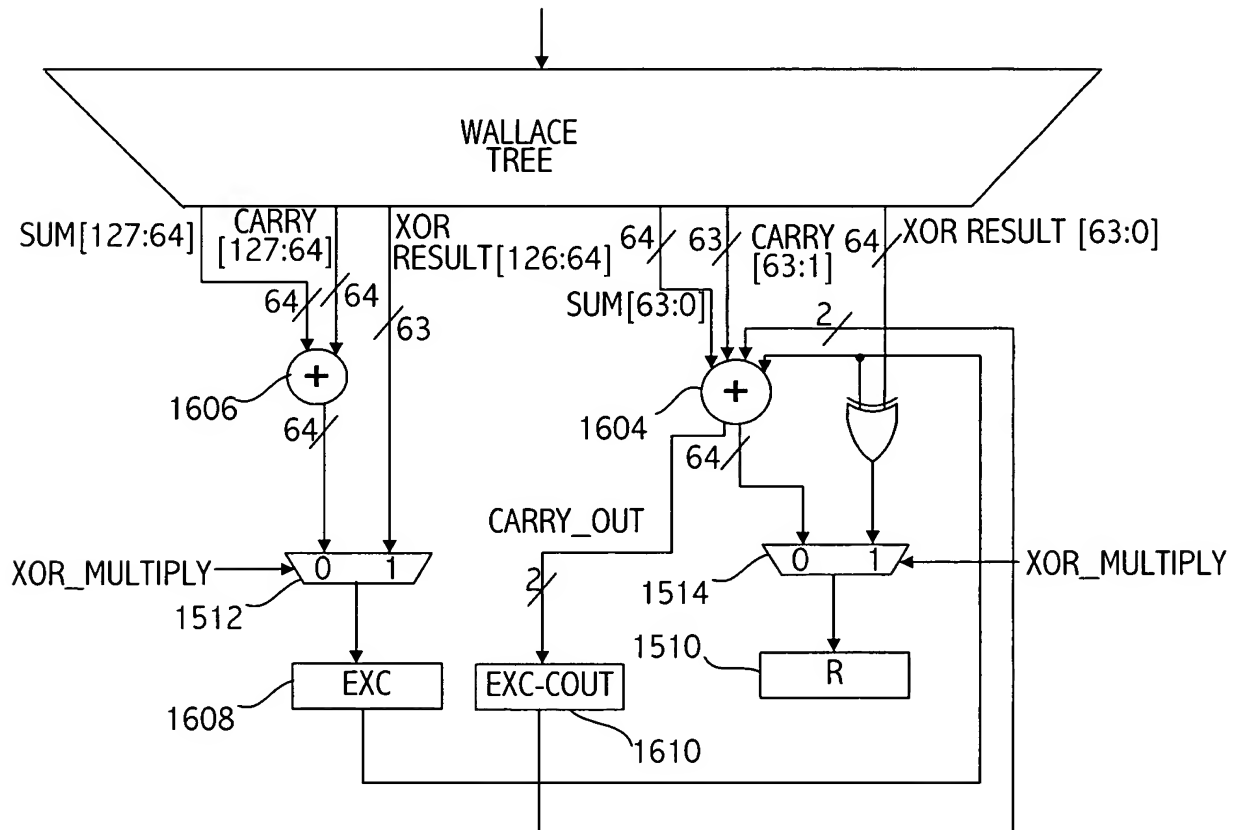


FIG. 16

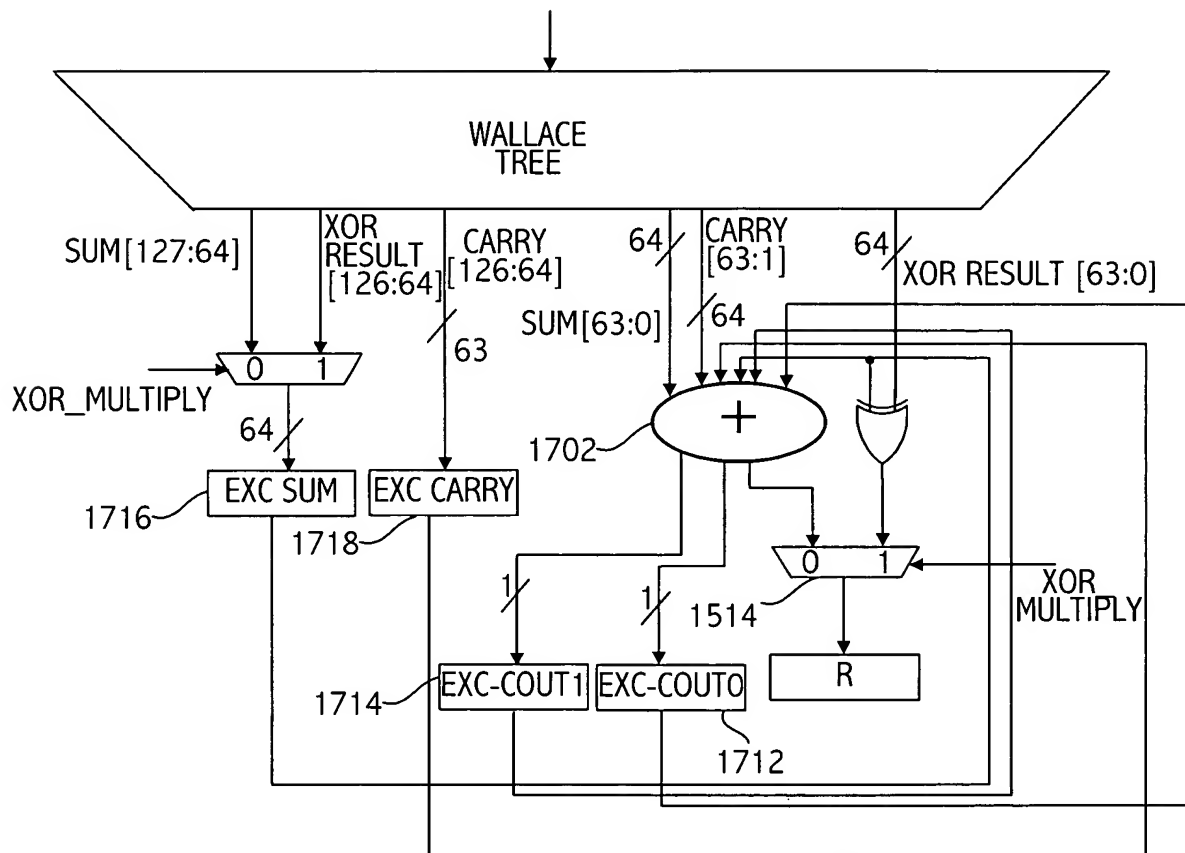


FIG. 17

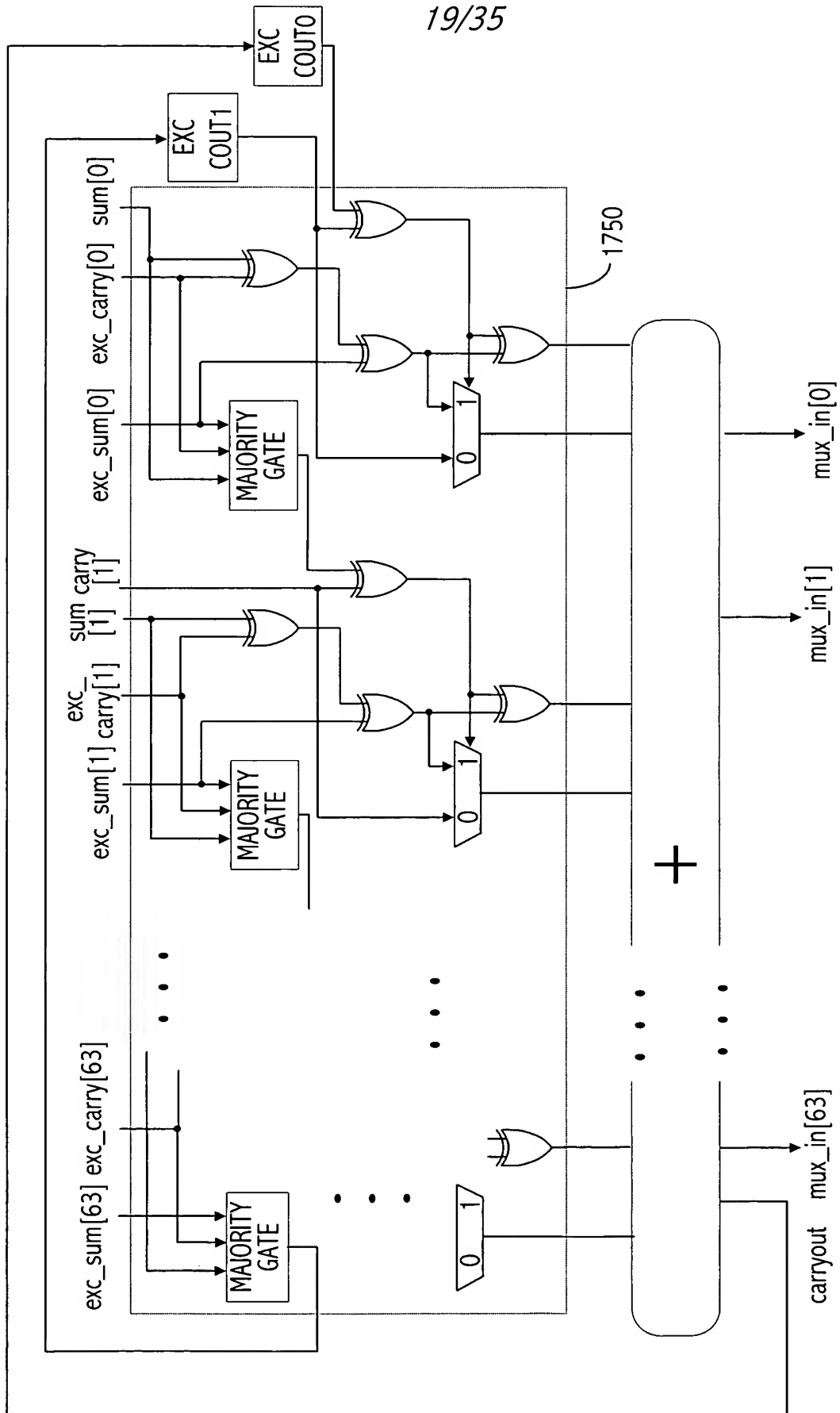


Fig. 17A

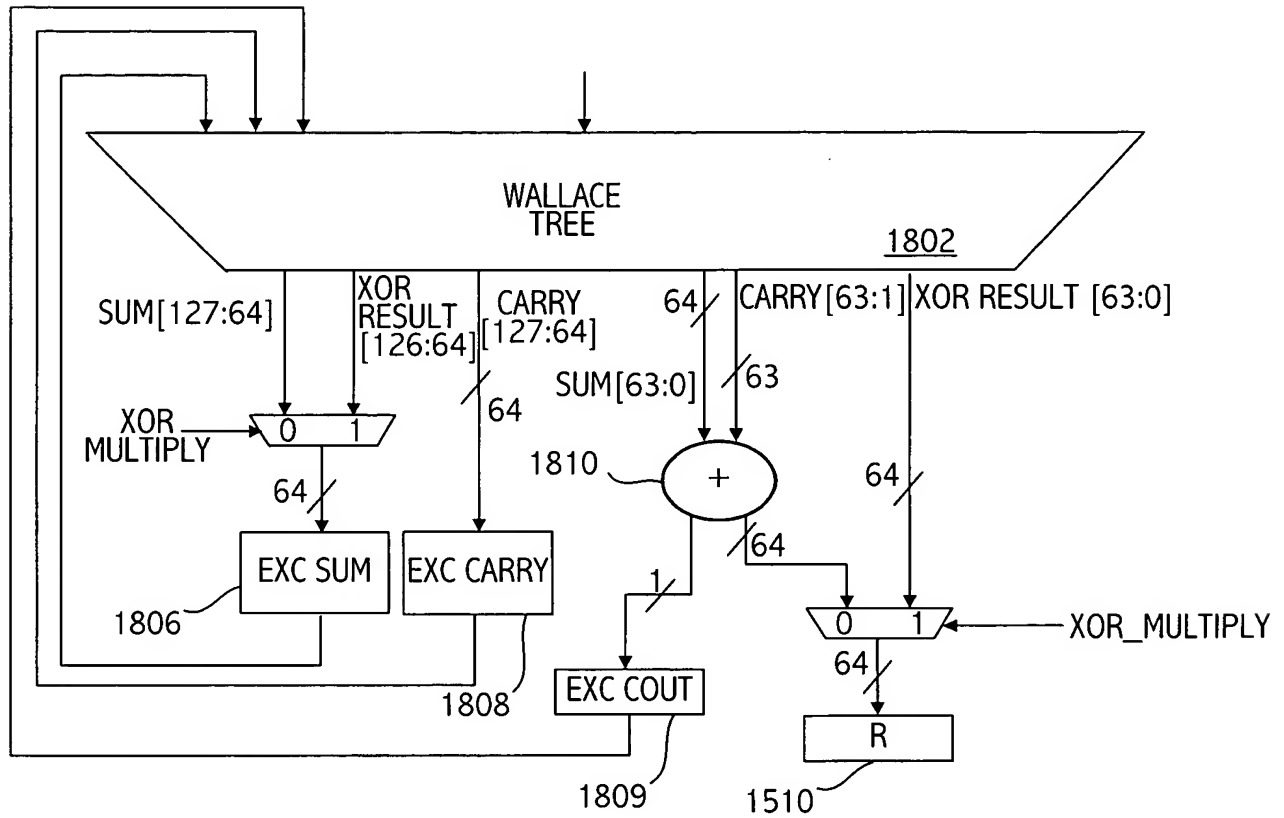


FIG. 18

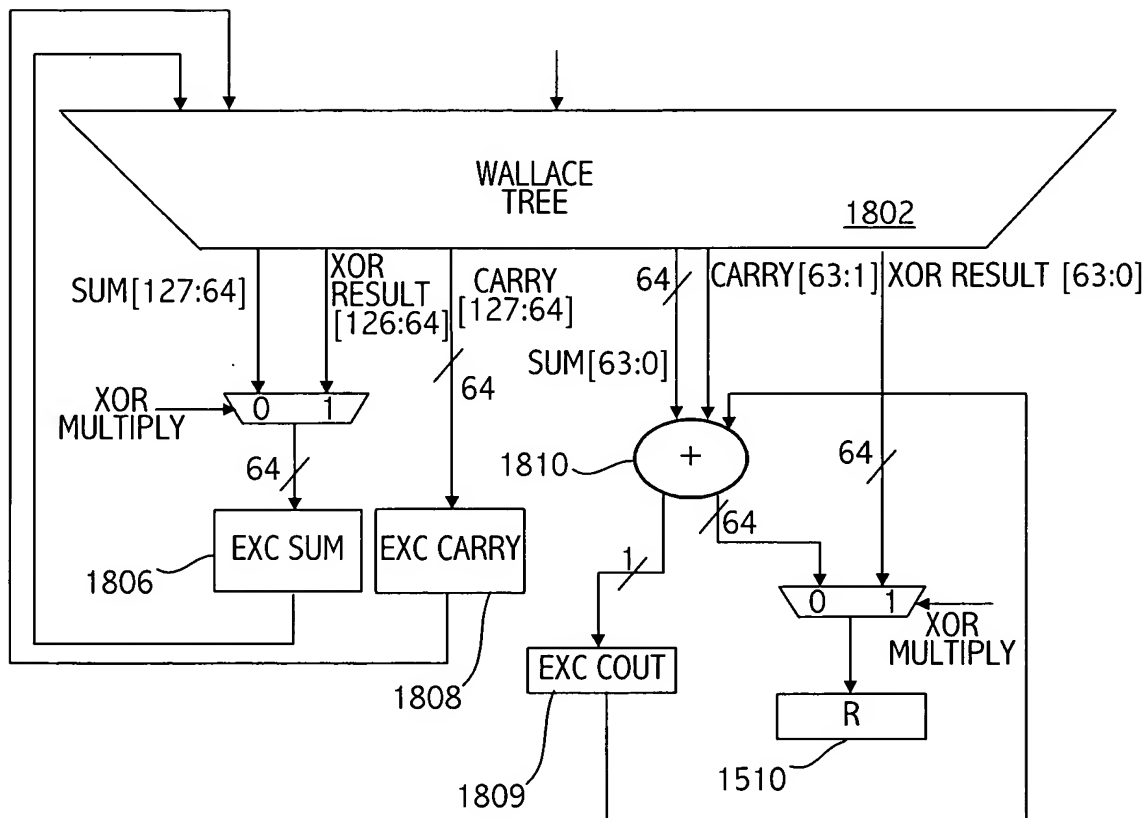


FIG. 19

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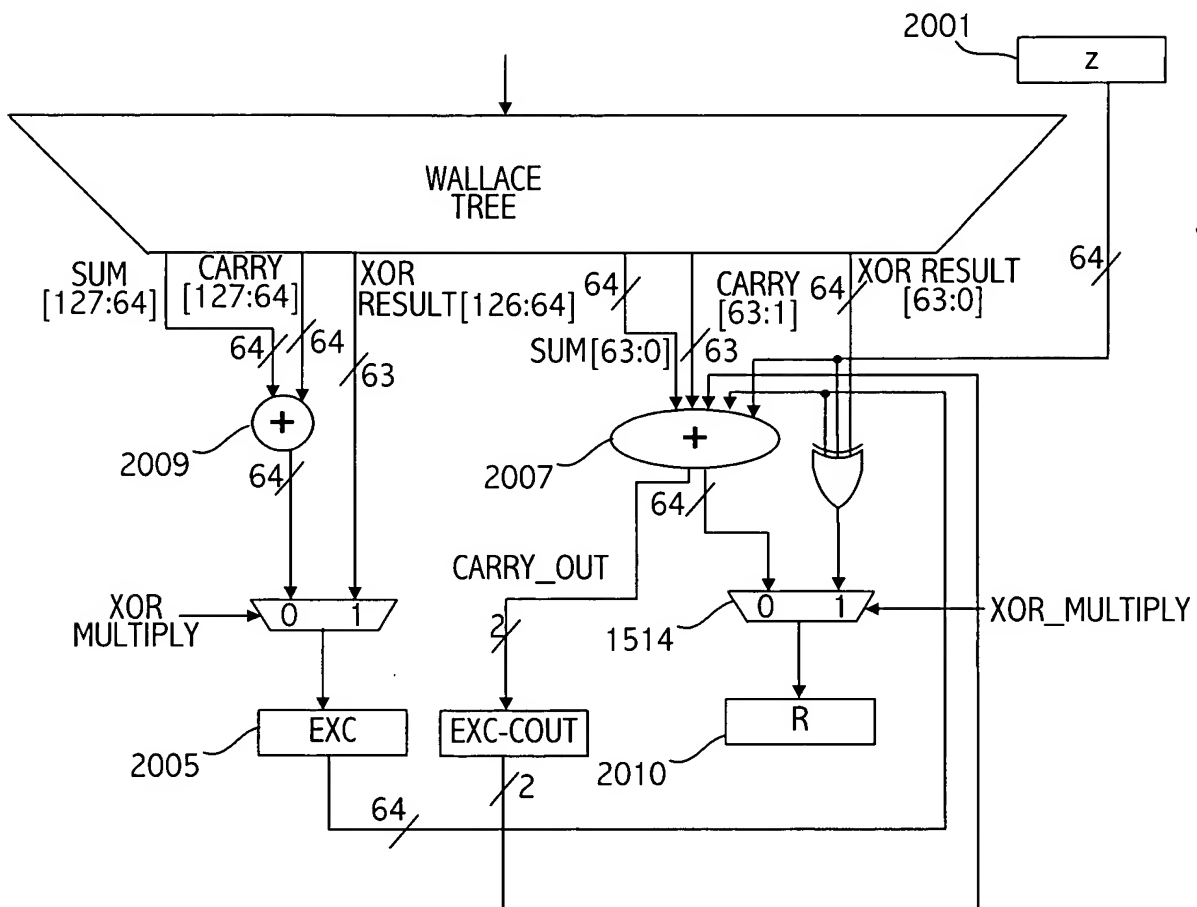


FIG. 20

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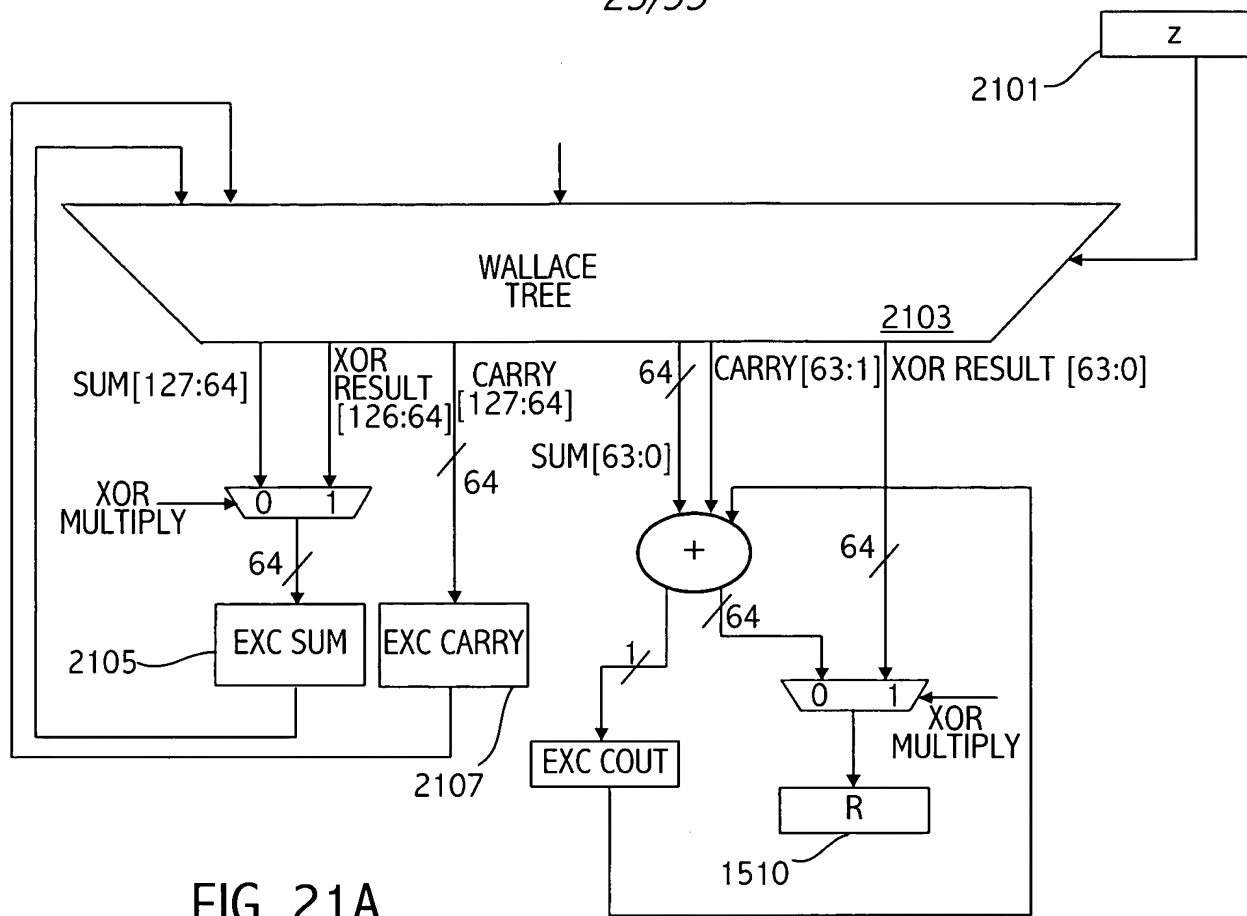


FIG. 21A

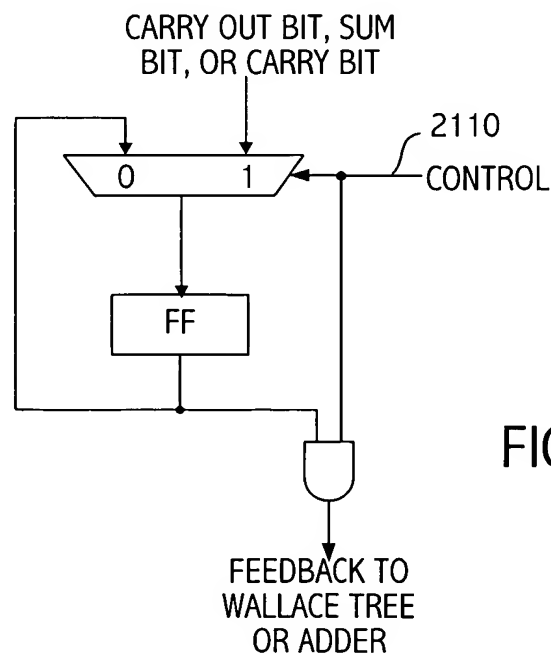


FIG. 21B

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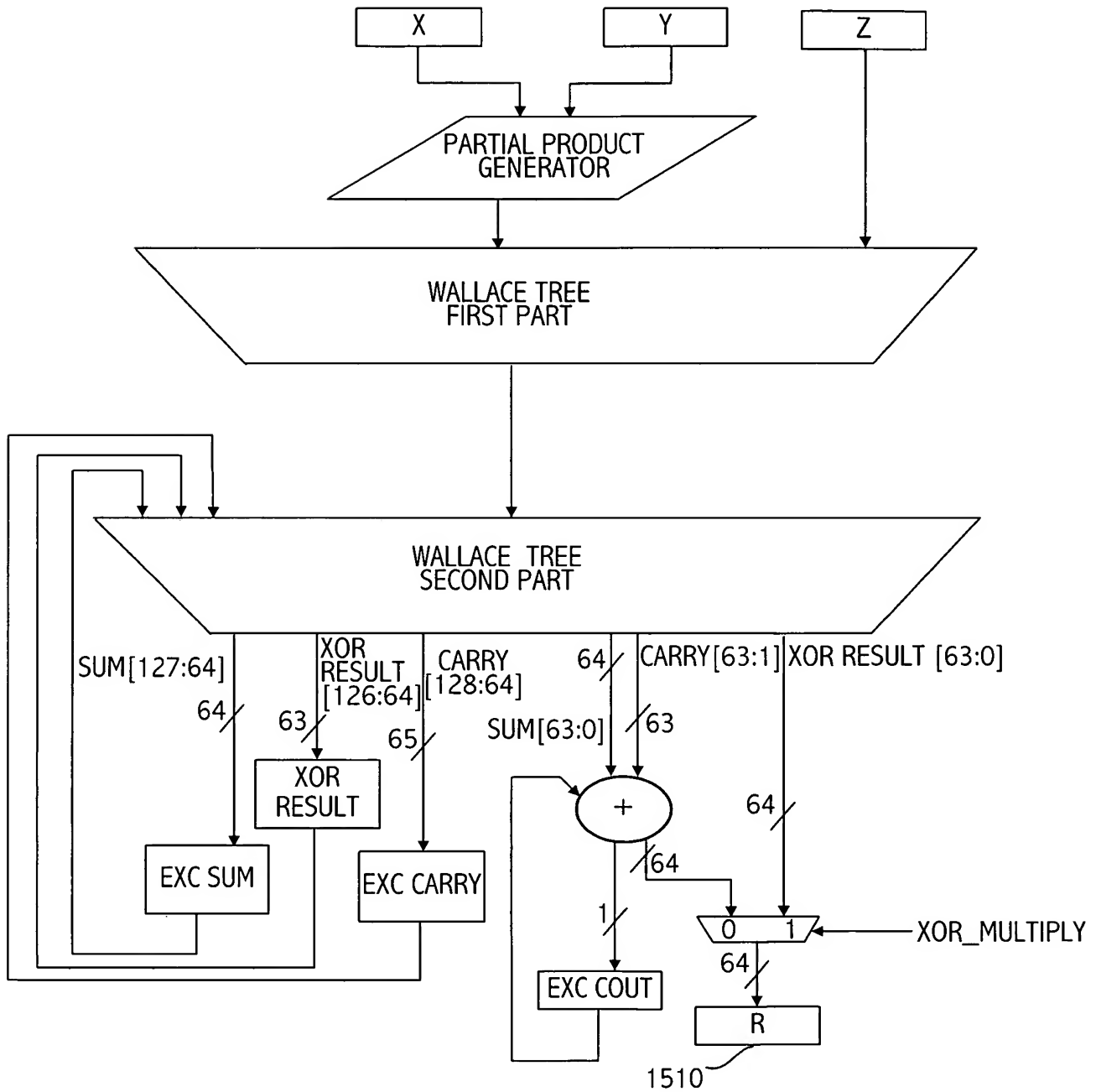


FIG. 21C

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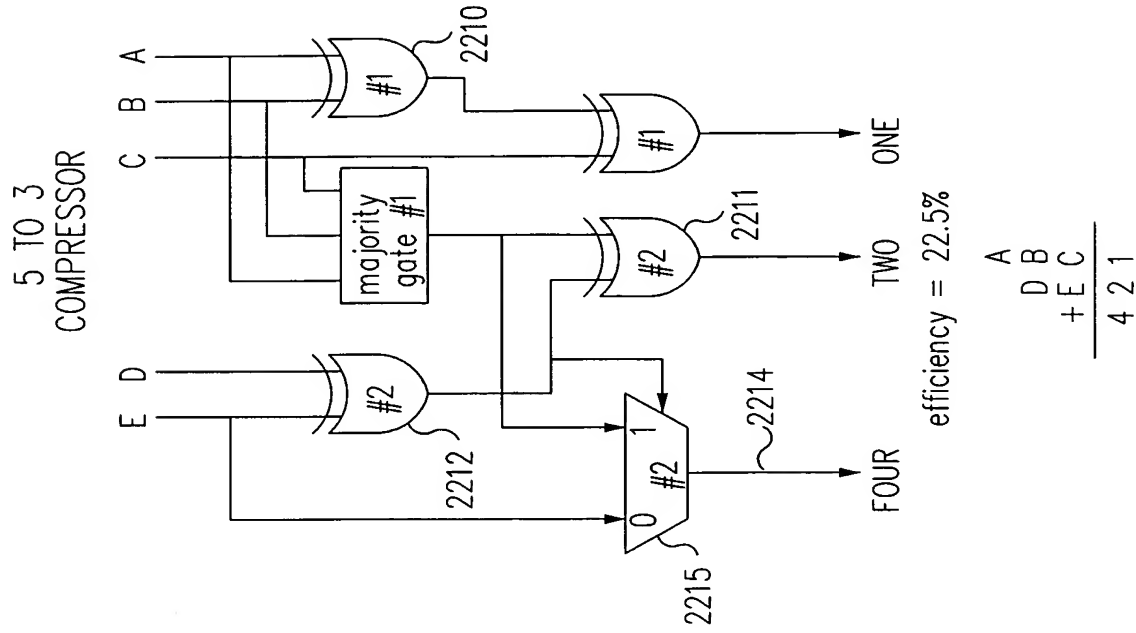


FIG. 22C

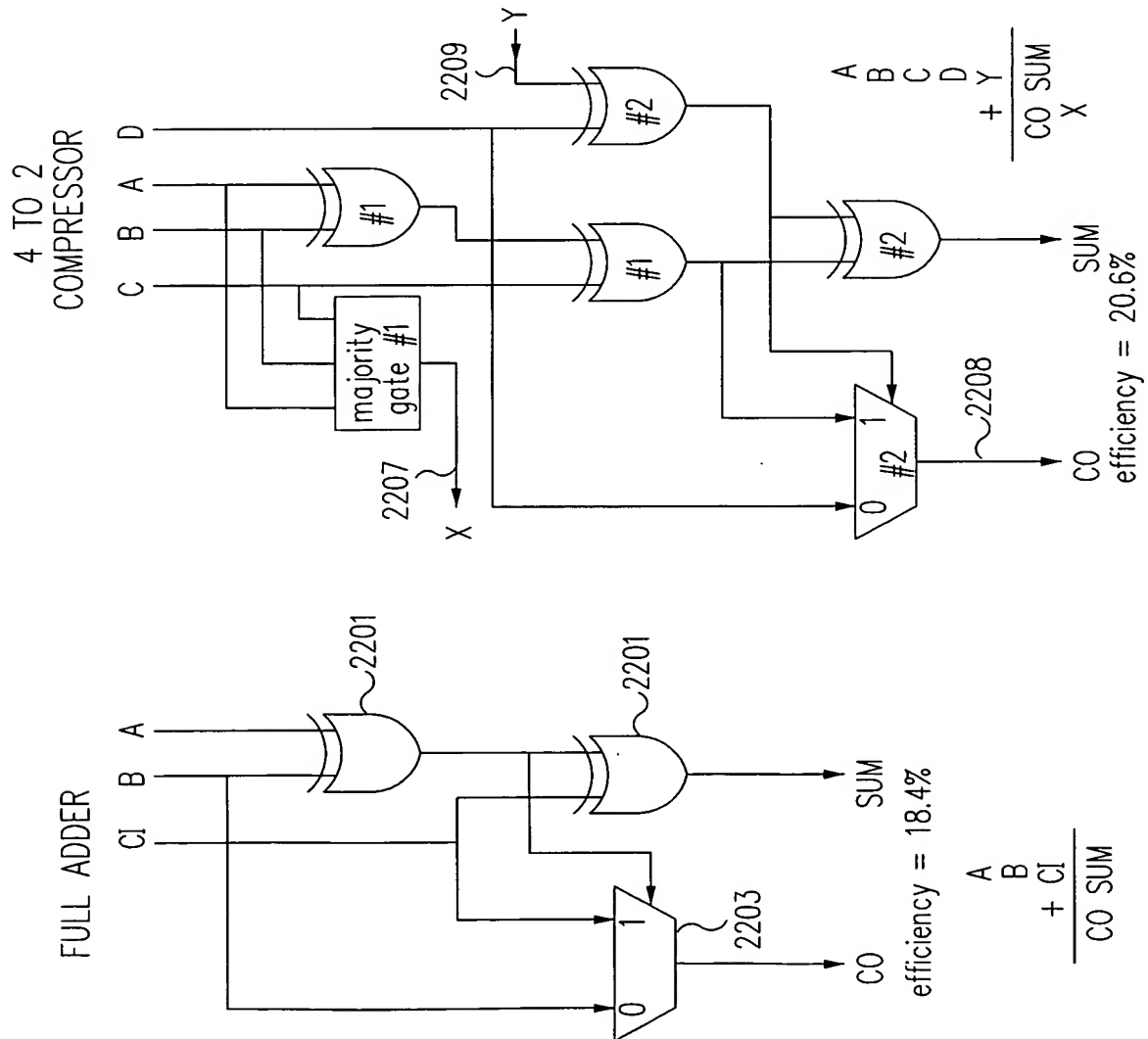


FIG. 22B

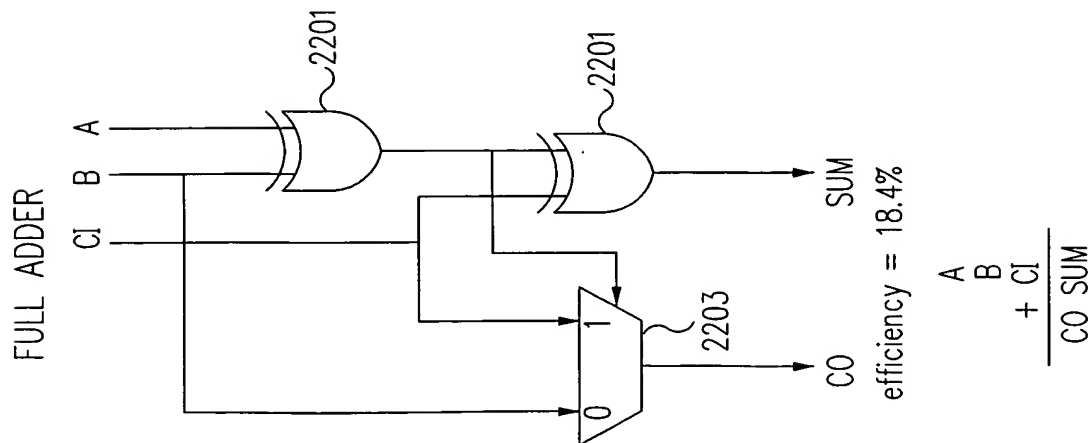


FIG. 22A

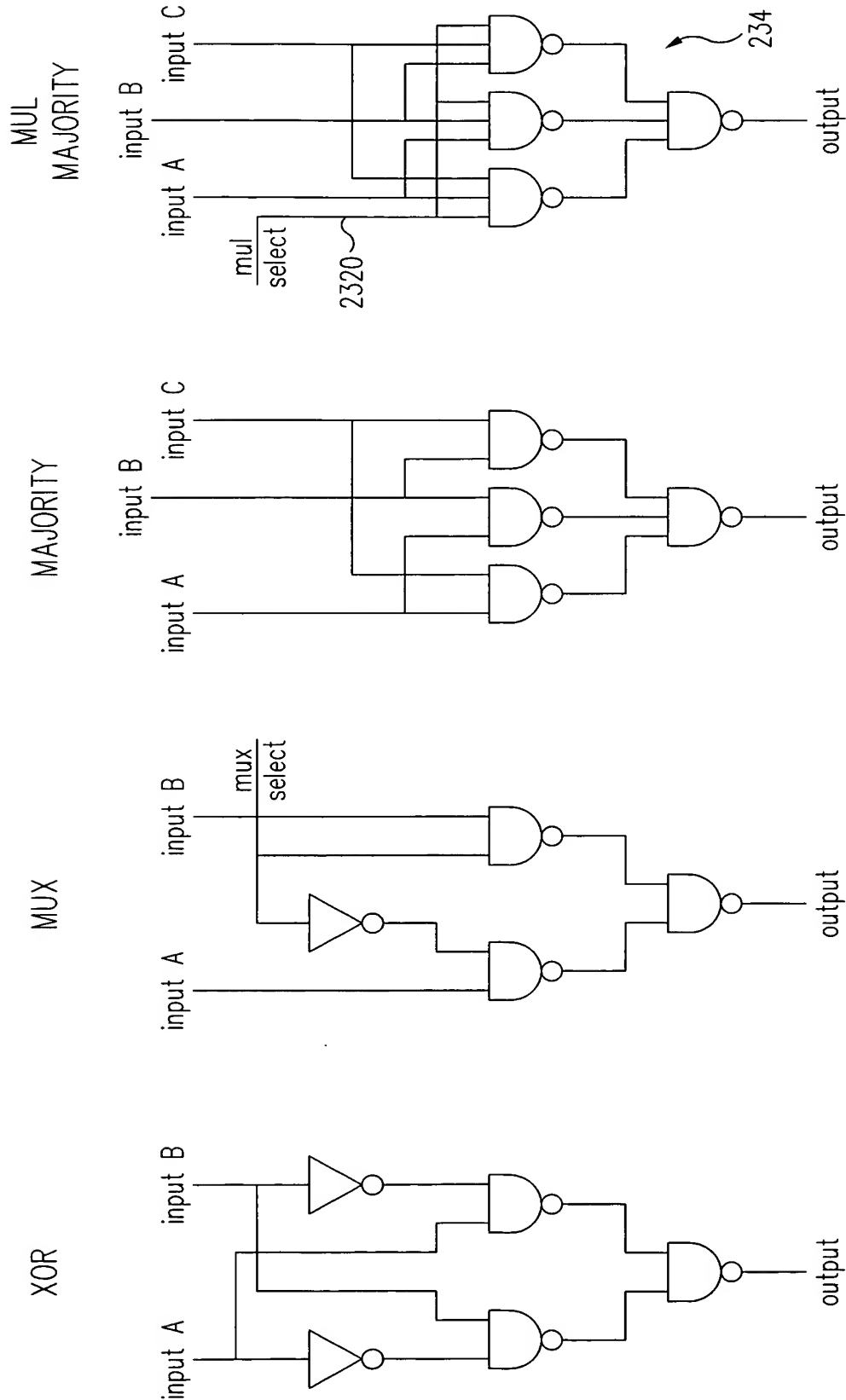


FIG. 23A

FIG. 23B

FIG. 23C

FIG. 23D

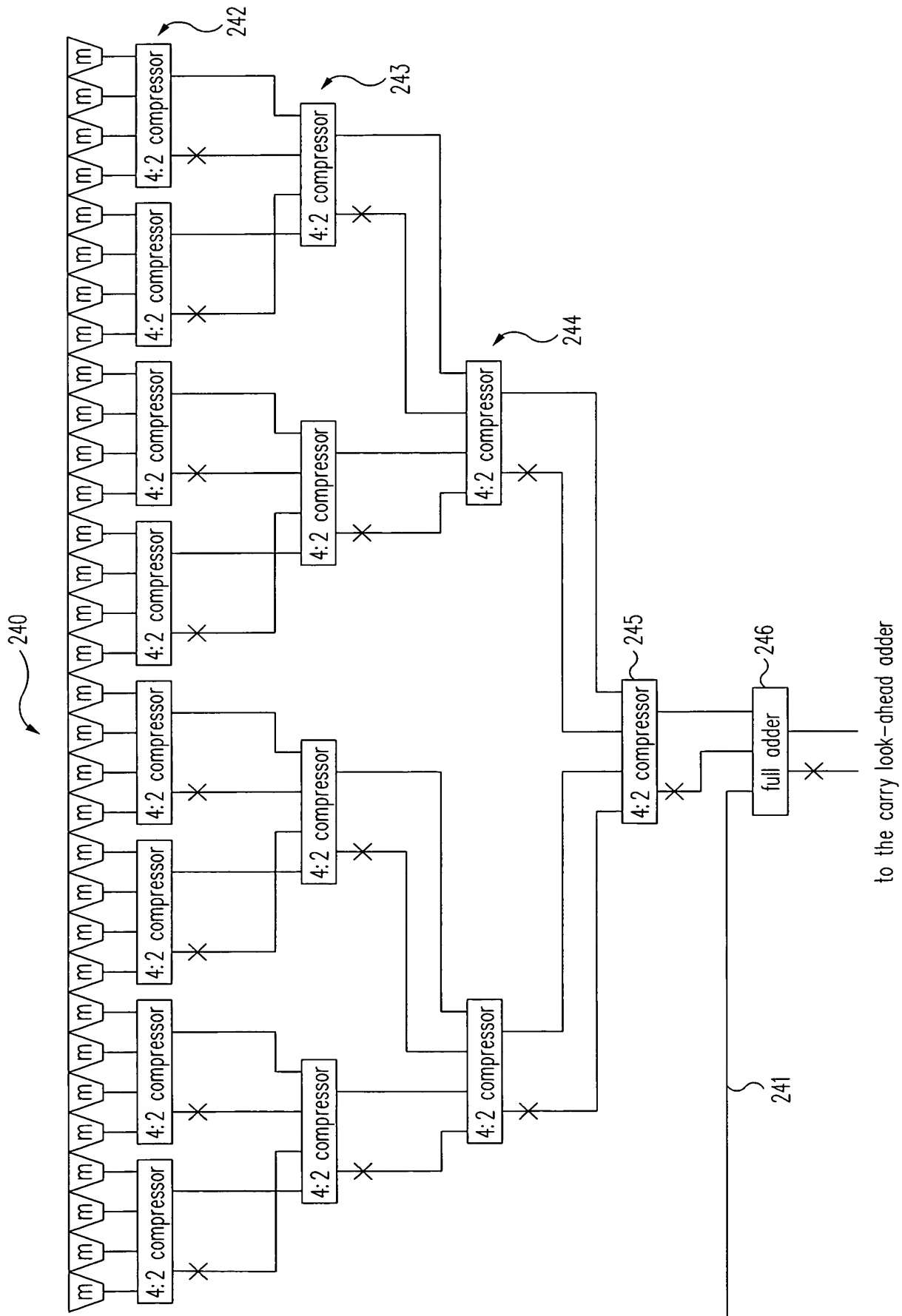
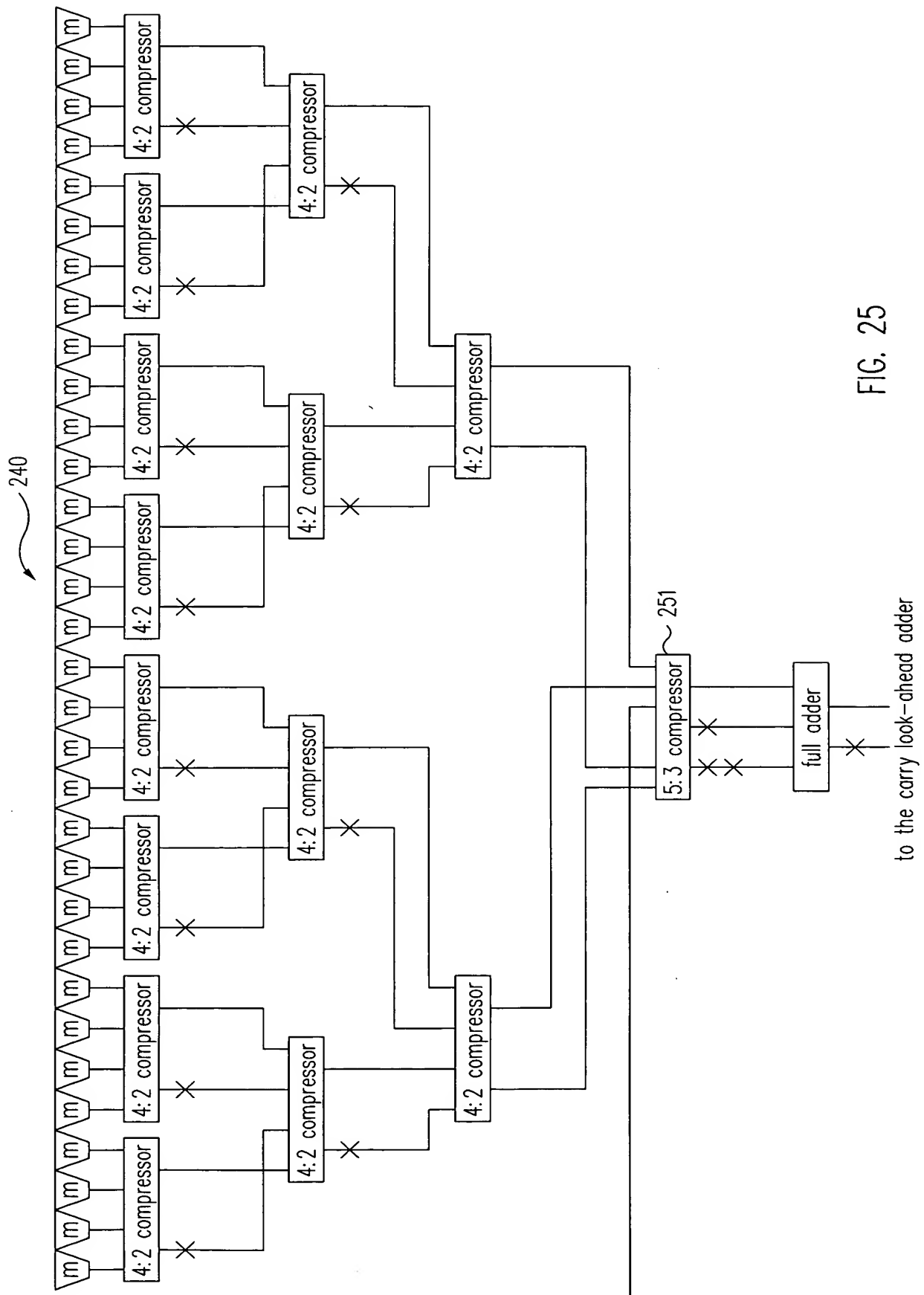


FIG. 24



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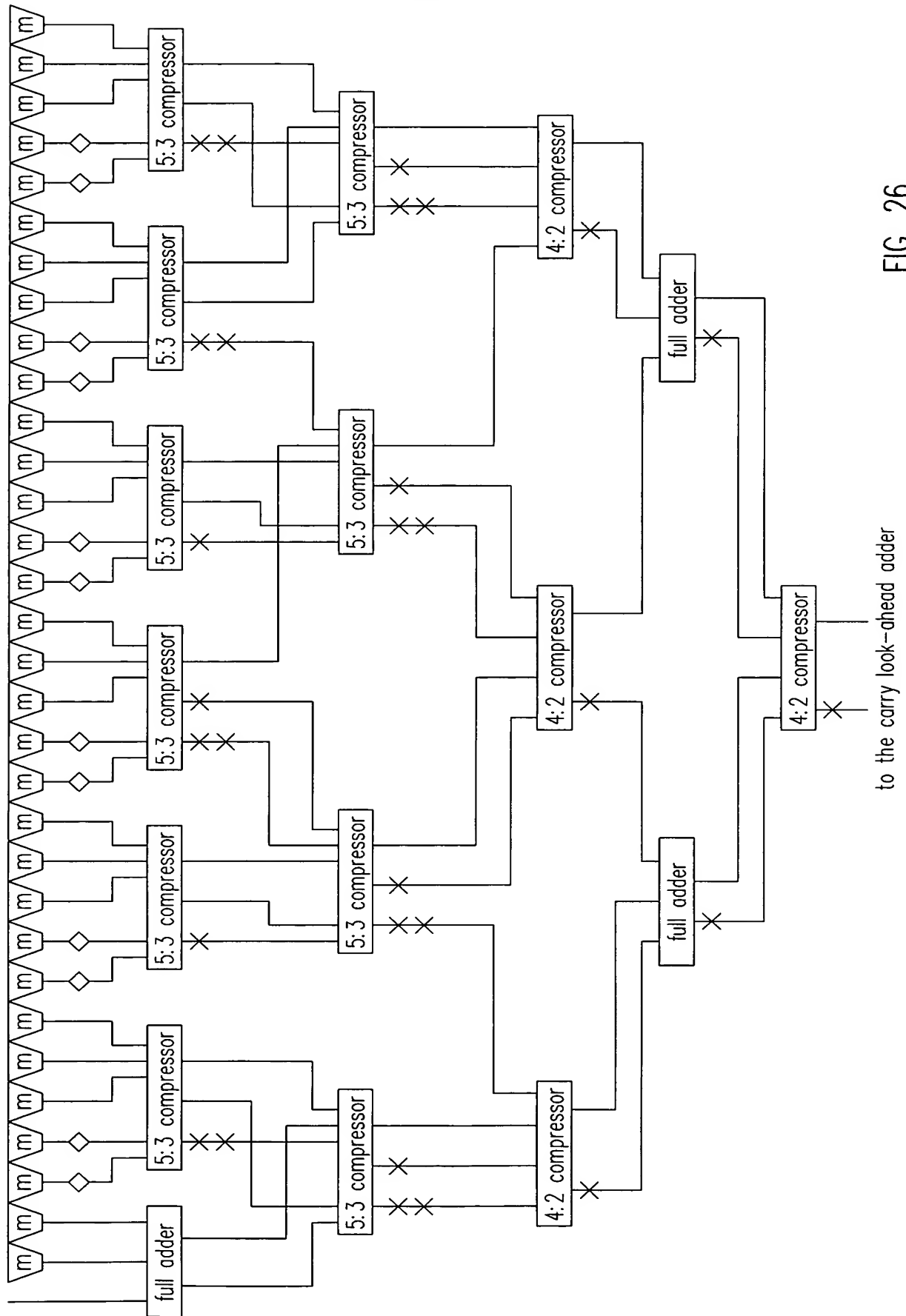
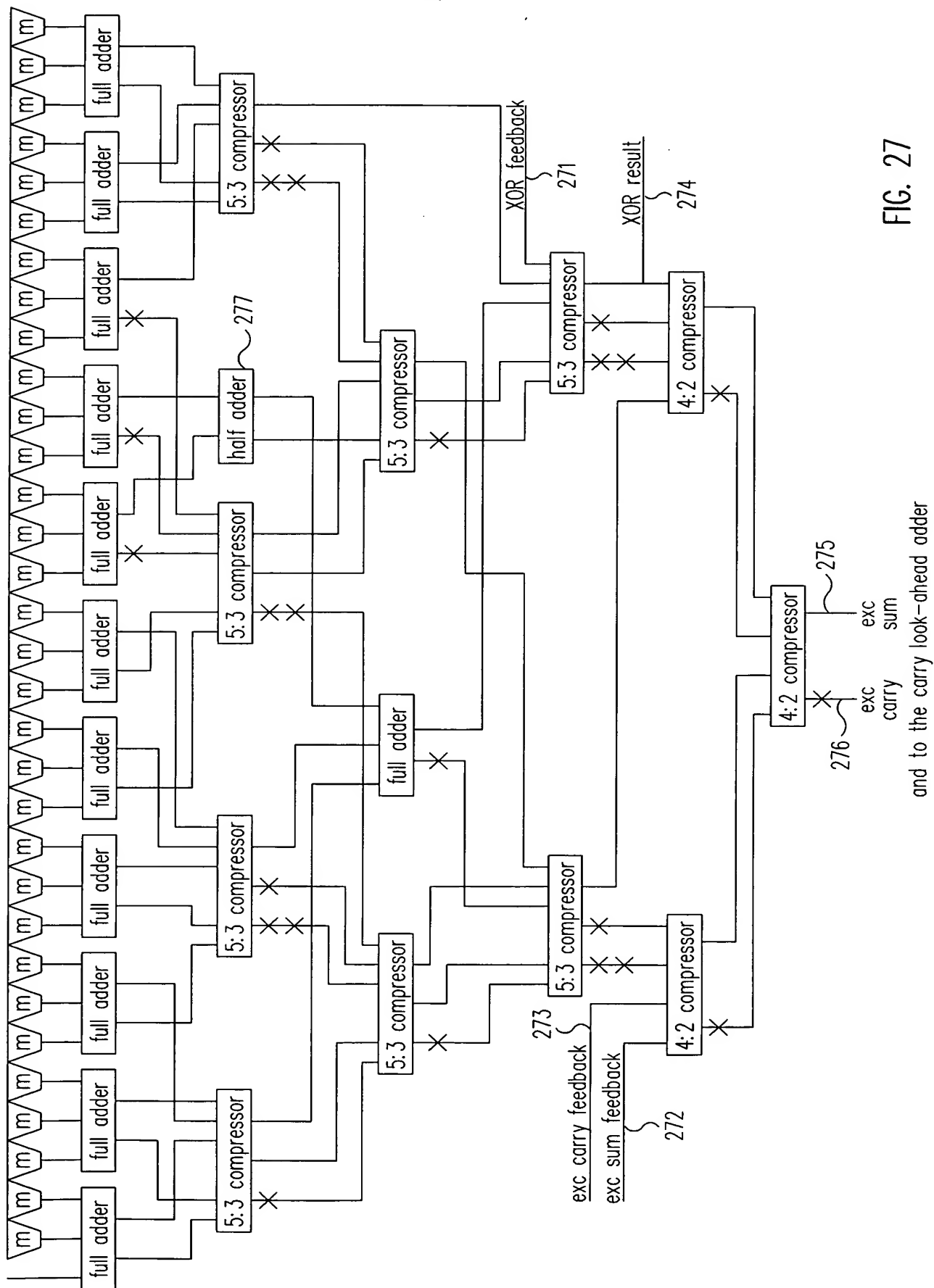


FIG. 26

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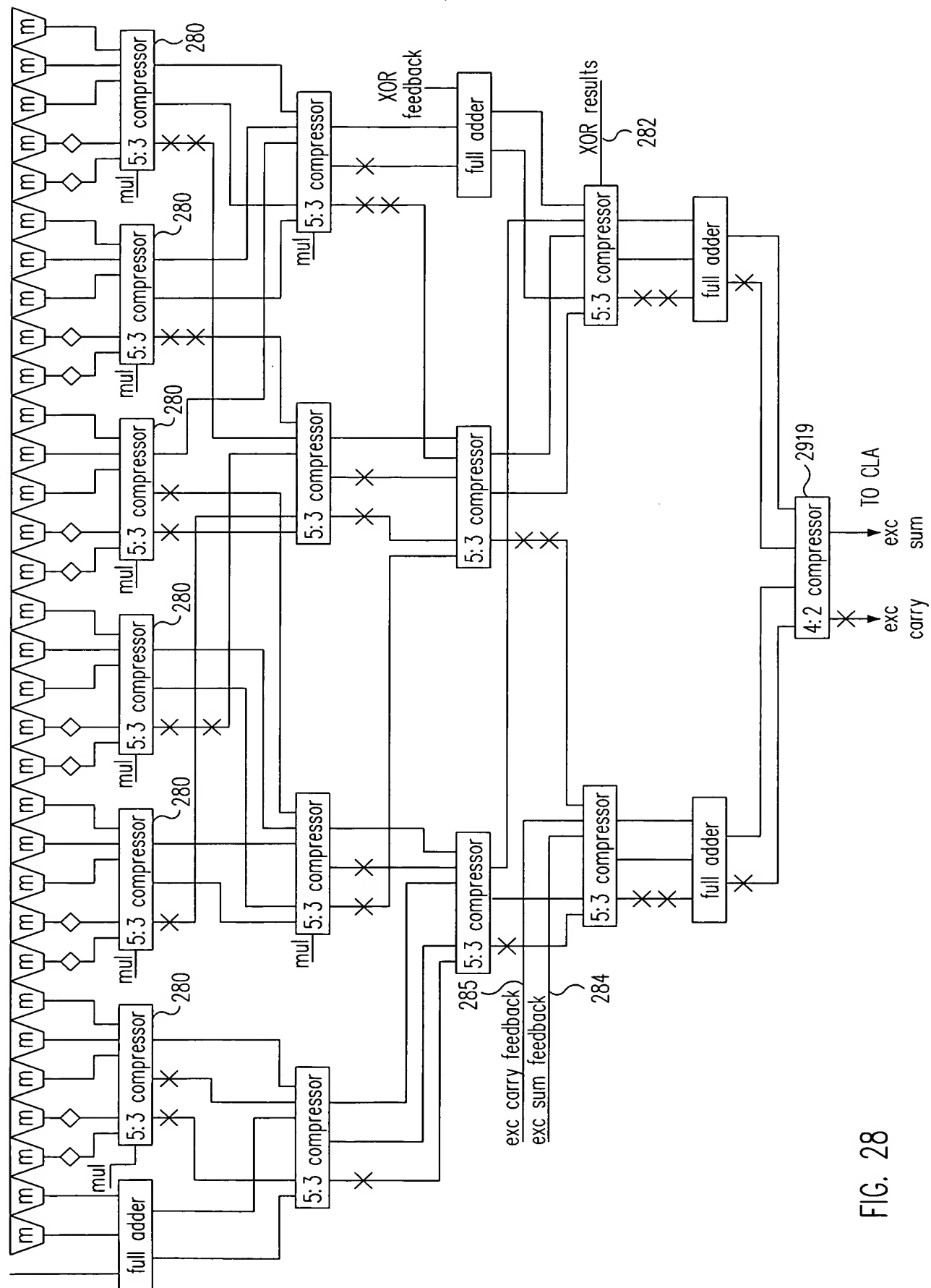


FIG. 28

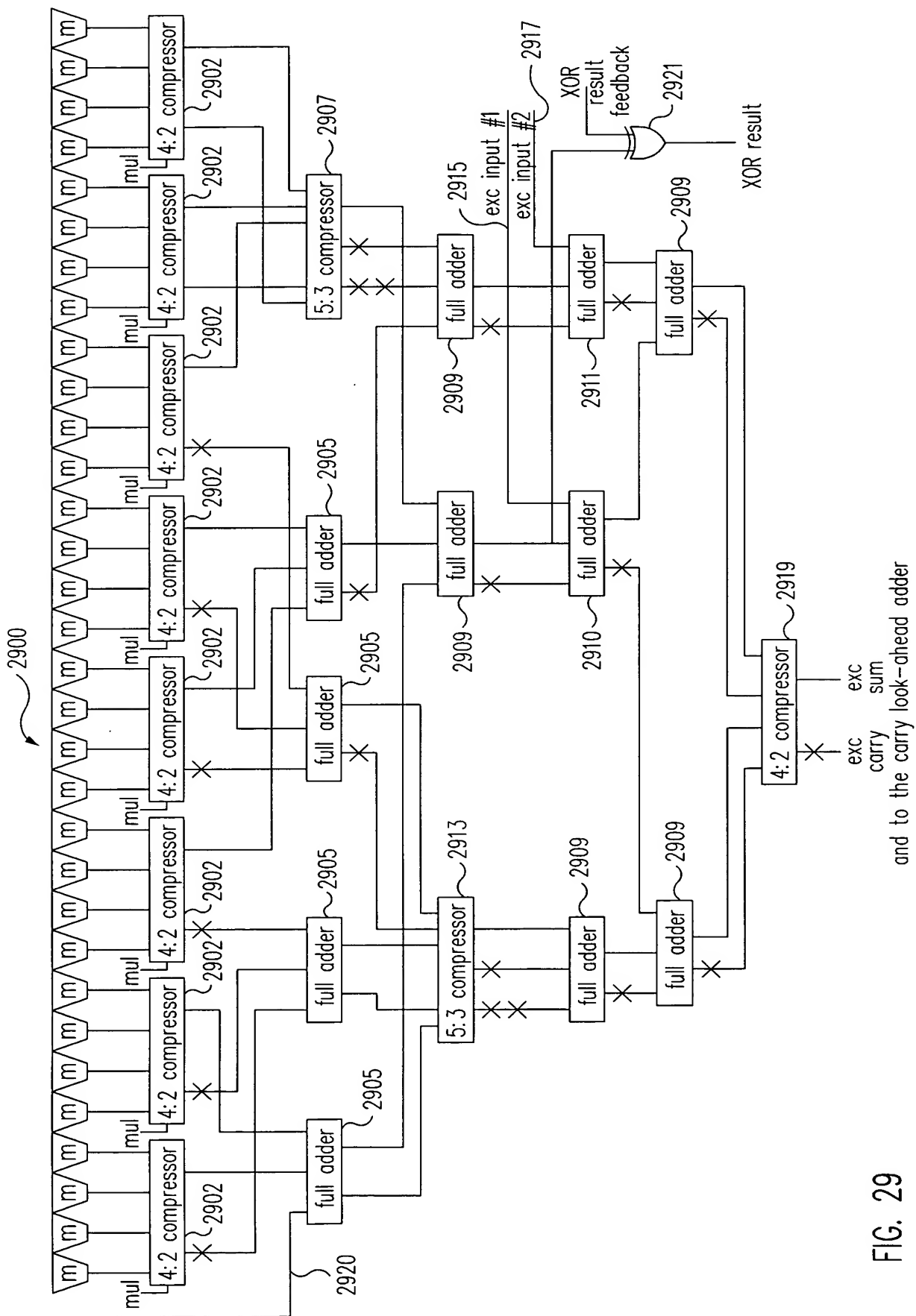


FIG. 29

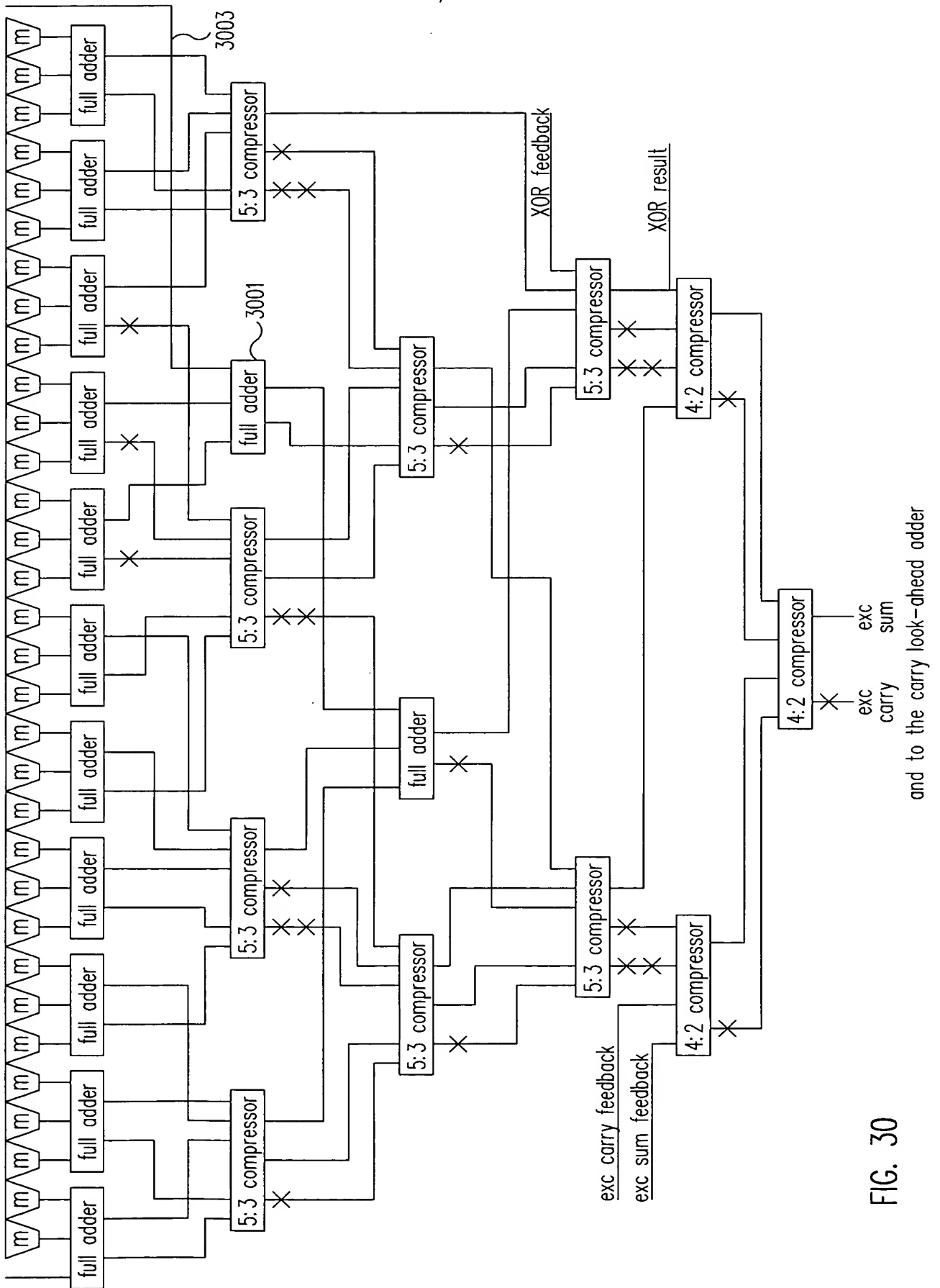


FIG. 30

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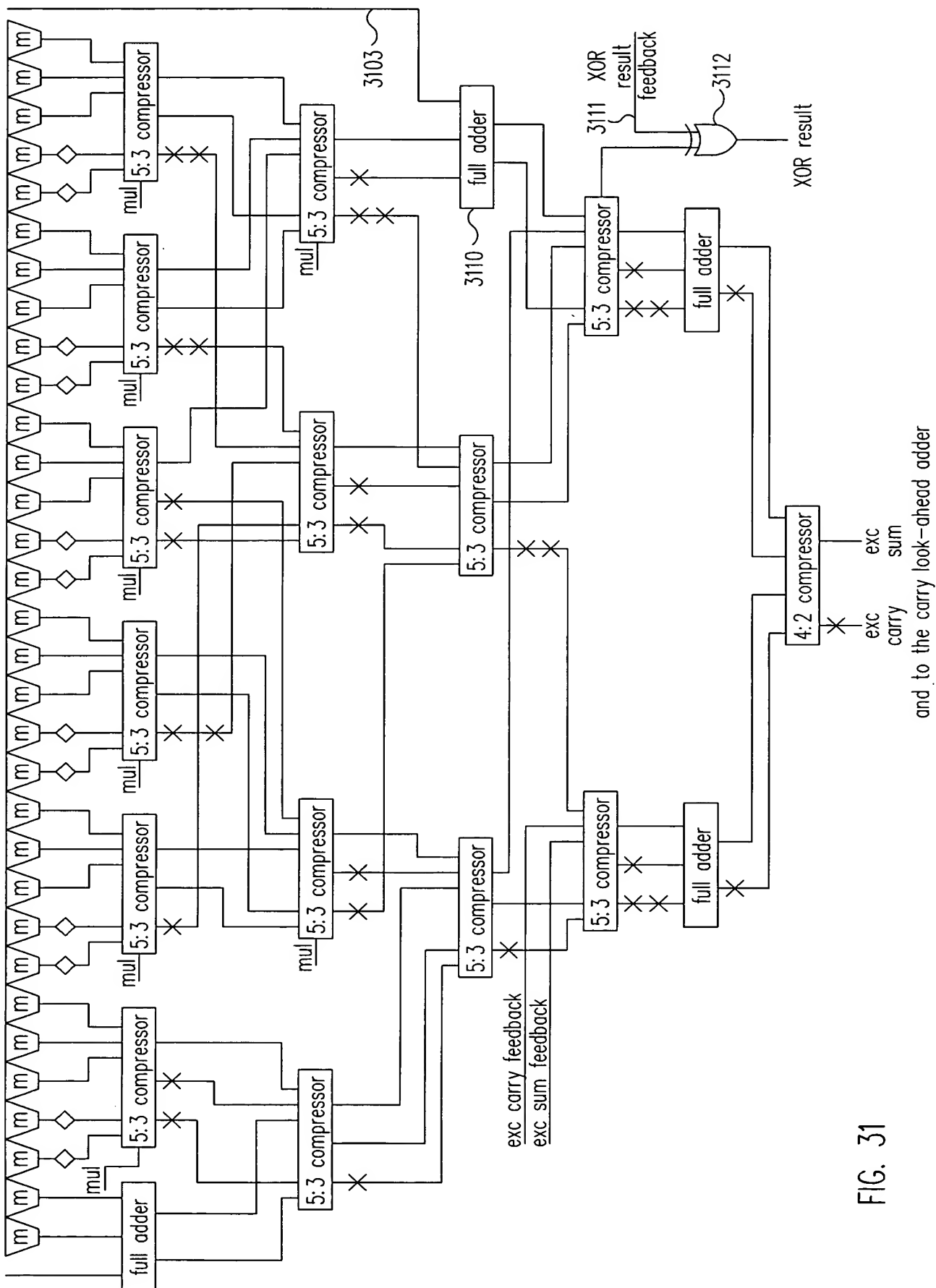


FIG. 31

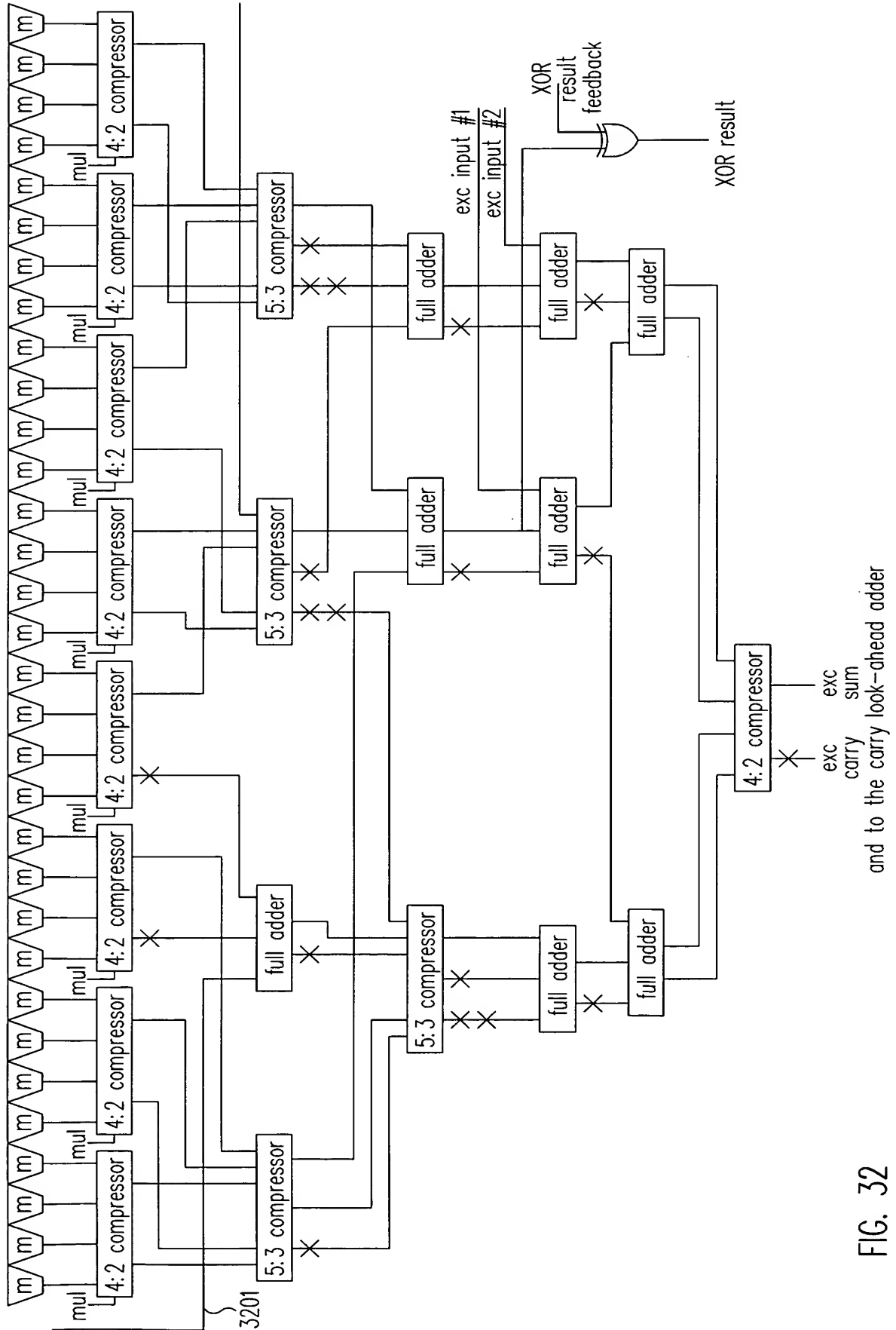


FIG. 32